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French Immersion Research Relevant to Decisions in Ontario

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French Immersion Research Relevant to Decisions in Ontario

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TABLE OF CONTENTS

Page

INTRODUCTION 1

I. ATTITUDES AND MOTIVATION 4

  Q1. How do immersion students differ from other students in their attitudes toward second-language learning? 4

  Q2. What reasons do parents and students give for deciding to enrol in immersion programs? 6

  Discussion 8

II. ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS 10

  Q1. What effect do the immersion programs have on the child's basic skills in English language arts? 10

  Q2. Does early immersion affect the general progress of students taught in French? 13

  Q3. Do high school students learn as much in courses taken in French as they would if they had taken the same subjects in English? 14

  Q4. What cognitive benefits will facility in a second language bring to the learner? 15

  Discussion 16

III. FRENCH PROFICIENCY 19

  Q1. How does the French proficiency of early immersion students compare with that of students in other groups? ... 21

  Q2. How well do students retain their French language skills after they leave the immersion program? 28

  Q3. What kinds of mistakes do immersion students make in speaking and writing? 30

  Q4. Is there an optimal age for starting second-language instruction? 31

  Q5. Can immersion students communicate effectively in French in out-of-school situations? 33

  Discussion 35

TABLE OF CONTENTS, cont.

Page

IV. CULTURAL KNOWLEDGE AND LANGUAGE USE 40

Q1. To what extent do French-immersion students use the language outside the classroom? 40

Q2. How do immersion students differ from others in their knowledge of French Canadian culture? 41

Discussion 42

V. PREDICTION OF SUCCESS AND TRANSFER PROCEDURES 45

Q1. How well can success in French immersion be predicted? . 45

Q2. Should a child who is below average or language-disabled be permitted to enrol in French immersion? 47

Q3. What are the characteristics of students who transfer out of French immersion? 49

Q4. What reasons are given by parents and students for the decision to transfer a child out of French immersion? .. 52

Discussion 53

VI. PEDAGOGICAL AND ADMINISTRATIVE ISSUES 58

Synthesis of findings and discussion 58
  Teaching styles and methods 59
  Curriculum and materials 63
  Administrative issues 64
  Other issues 67

SUMMARY 71

RECOMMENDATIONS 76

APPENDIX A: ANNOTATED BIBLIOGRAPHIES 79

I. ATTITUDES AND MOTIVATION
  Annotated Bibliography 80
  Additional References 86

II. ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS
  Annotated Bibliography 87
  Additional References 100

III. FRENCH PROFICIENCY
  Annotated Bibliography 101
  Additional References 127

TABLE OF CONTENTS. cont.

Page

IV. CULTURAL KNOWLEDGE AND LANGUAGE USE
Annotated Bibliography 128

V. PREDICTORS OF SUCCESS AND TRANSFER PROCEDURES
Annotated Bibliography 133
Additional References 144

VI. PEDAGOGICAL AND ADMINISTRATIVE ISSUES
Annotated Bibliography 145
Additional References 156

APPENDIX B: TABLES AND FIGURES 158

FIGURE 1: SCHEMATIC REPRESENTATION OF EDWARDS' THEORETICAL MODEL 159

TABLE 1: TIME SPENT IN FRENCH BY STUDENTS IN IMMERSION PROGRAMS IN OTTAWA AND CARLETON, 1983-84 160

TABLE 2: FRENCH IMMERSION IN ONTARIO: A DESCRIPTION OF SOME PROGRAMS TO GRADE 8 161

TABLE 3: COMPARISON OF FRENCH PROFICIENCY OF EARLY- AND LATE-ENTRY IMMERSION STUDENTS AT GRADES 8, 10 AND 12 IN OTTAWA AND CARLETON, 1979-82 162

TABLE 4: PROGRAM AT SIMON FRASER UNIVERSITY FOR TEACHERS OF FRENCH AS A SECOND LANGUAGE 163

TABLE 5: TRENDS IN LANGUAGE TEACHING: 1880's-1980's 164

TABLE 6: RECENT AND CURRENT TRENDS IN LANGUAGE TEACHING: 1970's-1980's 164

TABLE 7: SUMMARY OF MATHEMATICS ACHIEVEMENT RESULTS FOR COHORTS 1, 2 AND 3 IN ALLENBY P.S., OTTAWA BOARD OF EDUCATION AND CARLETON BOARD OF EDUCATION EFI PROGRAMS 165

TABLE 8: SUMMARY OF MATHEMATICS AND SCIENCE ACHIEVEMENT AND WORK STUDY SKILLS RESULTS FOR COHORTS 1, 2 AND 3 IN ELGIN COUNTY BOARD OF EDUCATION EARLY PARTIAL IMMERSION PROGRAM 166

APPENDIX C: ALPHABETICAL LISTING OF CITATIONS IN ANNOTATED BIBLIOGRAPHIES 167

INTRODUCTION

This report is submitted as the final report of a contract with the Ministry of Education dealing with the research on French immersion which has been carried out in Ontario and elsewhere in Canada. The contract called for an annotated bibliography, a synthesis of the findings, and recommendations, all of which are included as part of this document.

The annotated bibliography consists almost entirely of reports of research studies, together with a few which provide descriptive data as useful background to the others, such as descriptions of different types of immersion programs. The criteria used in the selection of the publications included recency, comprehensiveness, and availability, and an attempt was made to avoid duplication. If similar articles were published at different times or in different locations, the latest publication and/or the one most likely to be easily accessible was included in the annotated bibliography. An attempt has been made to include as many relevant sources as possible, up to the end of 1985; a few later citations have also been included.

Much of the research carried out in Ontario, and probably in most other jurisdictions, has been in response to concerns expressed at the time when immersion began to be introduced. The questions raised at that time by officials of the Ministry of Education in Ontario reflected these concerns: What harm, if any, will be caused by this untried approach? What alternative programs should be considered? What happens to students who do not succeed in the program?

What are the cognitive and affective objectives of the immersion program? What are suitable methods and curriculum content? The gaps in the research probably reflect both the biases of the investigators and the interests of the funding agencies.

The body of this report consists of a synthesis of the findings concerning immersion programs, based on the previously prepared annotated bibliography, and is presented under six headings:

ATTITUDES AND MOTIVATION

ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS

FRENCH PROFICIENCY

CULTURAL KNOWLEDGE AND LANGUAGE USE

PREDICTION OF SUCCESS AND TRANSFER PROCEDURES

PEDAGOGICAL AND ADMINISTRATIVE ISSUES

Under each of these headings there will be a summary of the findings on the topic in question, together with a discussion section which will include reference to the limitations of the research on that particular topic. For each topic, the relevant items in the annotated bibliography will be included in a similarly labelled section at the end of the report, with a list of additional references which have been referred to in the synthesis or the discussion. In most cases these additional sources will be publications which consist mainly of opinion or interpretation rather than actual research. An alphabetical list of all items in the annotated bibliographies is given in Appendix C, with an indication of the chapters in which each reference is mentioned.

The emphasis in the synthesis section of the report is mainly on the implications of the research for practitioners, rather than on theoretical background. An attempt has been made to indicate, both in the annotations and in the body of the report, some of the limitations of the research design of the studies selected for inclusion. These limitations may include such factors as lack of representativeness of the sample and weaknesses in the instruments or in the statistical techniques used. The discussion at the end of each section usually points out areas in which information is still lacking.

For a complete assessment of the research on any subtopic the reader should examine the specific articles rather than depend on the annotations alone. The opinions expressed and the interpretations given in this report are those of the authors or of the persons quoted, and not necessarily those of the teachers, consultants, and administrators who are directly responsible for immersion programs.

The report also includes an executive summary, which consists of a summary of the body of the report, in most cases arranged in a question and answer format, together with a set of recommendations.

I. ATTITUDES AND MOTIVATION

Q1. How do immersion students differ from other students in their attitudes toward second-language learning?

Although the attitudinal and motivational aspects of language learning are known to be important, the immersion phenomenon has not led to new insights in this area. Students who enrol tend to have more positive attitudes than those in core programs and to be well motivated, so that there is relatively little scope for improvement. Some evidence of change of attitude in a positive direction has been noted, and differences between immersion students and those in core programs have also been found.

In their pilot study Lambert and Tucker (1972*) felt that parental attitudes toward the other cultural group were important enough to be included as one of the criteria in equating their experimental and control groups. They also measured the attitudes and self-conceptions of the children in these groups. At the Grade 2 level the findings seemed to suggest that some non-ethnocentric attitudes were being fostered by this experimental program, but for the next three years there was no further indication of a change in the children's attitudes toward French people. However, there was some evidence that the development of French speaking skills was facilitating spontaneous social contact with members of the other linguistic community. The children also were satisfied with their program and rejected the idea of transferring to an all-English program.

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* Not in annotated bibliography; see additional references for Chapter I in Appendix A.

Coletta et al. (1983) examined the effects of parental influence on second-language learning for French-immersion students in Grades 7 to 10. A significant relationship was found to exist between active parental influence and students' reports of their confidence in using French.

Cziko, Lambert and Gutter (1979) used a process called 'multidimensional scaling' to examine the attitudes of children in Grades 5 and 6 in the Montreal area. The evidence in this preliminary study suggested that for early-immersion students the social distance between the two language groups had been reduced.

Another exploratory study (Hamers and Deshaies, 1984*), involving bilingual exchange groups, suggested that these programs influenced attitudes favourably and also reinforced the students' own cultural identity. However, it was pointed out in this study, as in others with immersion students, that the students included were mainly those whose attitudes were initially very positive.

In a study of a bilingual exchange involving Grade 7 students from British Columbia, Day (1982) found that students showed more positive attitudes toward French-Canadians after the trip. A measure of attitudes used in the same province (Shapson and Day, 1982a) showed that immersion students in Grade 6 tended to have more positive attitudes toward French language and culture than core French students at the same grade level. Kaufman and Shapson (1978) had found earlier that Grade 10 students in later immersion and summer immersion programs had more positive attitudes toward French-speaking people than those in conventional French programs.

Savignon (1976) emphasized the importance of attitudinal variables in language learning, including attitudes and motivations of teachers. An instrument developed by this writer to explore these variables seems to have been used mainly in workshops with teachers and not for data-gathering purposes.

Q2. What reasons do parents and students give for deciding to enrol in immersion programs?

Gardner and Lambert (1972*) have identified and examined two types of motivation which encourage the learning of a second language. They speak of an 'instrumental' orientation, referring to those who learn a language for utilitarian purposes, while those whose orientation is 'integrative' are interested in the other language and its community for their own sake. In a study of English-speaking high school students learning French in Montreal, two factors, the integrative motive and linguistic aptitude, emerged as contributing to the French proficiency of former late-entry immersion students.

Many writers have observed the strong influence of the 'instrumental' orientation in immersion students and their parents. In Peel County, Kirkwood et al., for example, found that improvement of job opportunities was seen by both children in Grade 6 early- or late-immersion programs and their parents as important reasons for becoming bilingual. In the Ottawa area, Bonyun (1985) has found that the responses of about two-thirds of the students in the later years of a high school bilingual program to an open-ended question about the role of the French language in their later jobs or education mentioned improved job opportunities. Similar responses had been given in an earlier study of the graduates of this program (Bonyun, 1983). However this question did not ask about cultural aspects of the program, including the study of French literature, which were mentioned by the graduates more often when they were asked about the particularly good characteristics of the program they had followed.

Olson and Burns (1982), in a study of immersion parents in eight northern Ontario boards, reported that reasons for enrolling their children in immersion given by over 80 per cent of the respondents included the hope of better access to jobs and the belief that mastery of a second language is an important part of education. Nearly 60 per cent of this group expressed agreement with the belief that French immersion aids in bringing the French and the English together.

In the Ottawa area an early study (Martin, 1972) showed similar priorities as to goals of education among parents of children in French immersion and in English Kindergarten and Grade 1 classes, except for expected differences in their views of the importance of French language skills. Bienvenue (1986) found that in Winnipeg parents of non-immersion children at the primary level questioned the viability of the immersion program more than those whose children were in immersion; they were also less likely to believe that French-immersion programs could produce 'truly bilingual' children.

Discussion

The complexity of the study of attitudes and motivation with respect to French immersion is illustrated by a diagram presented by Edwards (1980*), which attempts to show the impact on second-language competence of factors such as the social milieu, individual differences and the learning context (see Figure 1 in Appendix B). Edwards also points out the potential of non-verbal cues in facilitating or hindering cross-cultural communication and the need for empirical research in this area.

It is clear that many parents and students look on the French immersion program as a means of improving job opportunities for the students themselves at a later date. The students for the most part are much more positive toward the learning of the second language than students of the same age in core programs, although the typical immersion student does not appear to have a strong interest in linguistic studies as such.

However, little is known about the changes in attitude which undoubtedly occur as students progress through the program. Sometimes there may be a change from general acceptance of the fact of being in immersion to rejection of the idea of being different. There is probably in most cases a period of discouragement when not much of what the teacher says is understood. Students may also continue to be timid about using the language in out-of-school situations.

Some students may develop a strong interest in French-Canadian history, in Quebec politics, or in the music, drama, or poetry of French-speaking peoples in various parts of the world. The emphasis in most school systems on the equivalence of courses taught in French and English probably reduces the opportunities for students, at the high school level in particular, to learn about ways in which the two cultures are likely to differ.

The changing attitudes of students in immersion programs are important to administrators and teachers who wish to make French-immersion programs more effective. The students' attitudes are reflected in their development of proficiency in the use of the French language and also may ultimately help to improve communication between the two official language groups in Canada and increase understanding by each group of the other's cultural heritage.

There is a need for further investigation of the changing attitudes and motivations of students in immersion programs, particularly at the upper elementary and high school levels, and for identifying programs which are effective in promoting positive attitudes. Carrying out case studies of individuals and groups which appear to have different attitudes could be one means of identifying effective approaches to this complex issue. For example, students who elect to continue in the bilingual program at the high school level may have different attitudes and motivations from those of former elementary school immersion students who do not continue.

II. ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS

Q1. What effect do the immersion programs have on the child's basic skills in English language arts?

This question was among those most frequently asked when immersion programs were first introduced - in the St. Lambert schools in Quebec in the sixties, in Ottawa-Carleton in the seventies, and in many communities across Canada since that time. The question was more often phrased in terms of the risk of a negative effect on achievement in English and in the subject-matter areas. Lambert and Tucker (1972) describe the typically negative reaction of monolingual parents in North America to such a 'radical and worrisome' proposal, as well as the concerns which prompted a group of parents to offer their children as guinea pigs in the immersion program in St. Lambert.

The same questions continue to be asked in every community in Canada when an immersion program is proposed, and it appears that in nearly every case data are collected locally to reassure the parents that their children will not suffer in their basic skills in the English language. At the first Ministry of Education (Ontario) symposium on alternative programs for teaching French as a second language in the schools of the Carleton and Ottawa Boards, several of the investigators (e.g. Edwards, 1976; Stern, 1976) who reported touched on this issue. At that time the early immersion programs in the four school systems of the area had reached the fourth or fifth grade, but as the years progressed the investigators at the Ontario Institute for Studies in Education (OISE) and others (Andrew _et al_., 1980; Edwards _et al_., 1980) continued to examine the question at later grade levels.

Typically, the approach in the elementary grades has been to administer standardized achievement tests in reading and other language skills such as spelling and usage. Comparison groups were sometimes selected to be as similar in background as possible to the immersion group, or matched on a measure of scholastic ability. In other cases, statistical procedures were used to adjust the results to compensate for differences in the aptitude of the groups studied.

The results of most analyses of this kind were similar, including those of Genesee (1978b) in Montreal, Gray (1986) in Fredericton, New Brunswick, Shapson and Day (1982a; 1982b) in British Columbia, and Jackson and Duncan (1985) in Hamilton, Ontario. Not unexpectedly, a first-grade child who had had no formal instruction in reading in English did not read as well as one who did have such instruction. Often children in the third or fourth grade of French immersion did not spell as well in English as those in regular English classes. Usually, however, by the fourth or fifth grade, early-immersion students, who tended to be somewhat above average in their performance on tests of school aptitude, performed as well on standardized language arts tests as other children of similar ability. Similar results have been found in other types of immersion programs. Some specific examples are provided below.

In research carried out in late-immersion classes in the Ottawa area from 1973 to 1975, student achievement in language arts at the end of the second year in the program was at least as high as that of comparison groups taught in English (Halpern *et al*., 1976). Children in a 50/50 program in Elgin, however, did less well than the comparison group instructed in English on reading and language tests at the Grade 3 level, but there were no differences in most cases at the Grade 4 and 5 levels (Barik et al., 1977).

Cziko (1976) compared the English and French reading skills of groups of children in Grade 4 who had begun an immersion program at either Kindergarten or Grade 4. Neither the early nor the later French program had detrimental effects on reading skills in English. However, the researcher felt that more attention should be paid to the effect of different sequences of first- and second language reading instruction, since little research appeared to have been done in this area.

Jones (1984) found that in immersion-type programs in Ukrainian, Hebrew and German, as well as in French, students achieved as well in English reading and mathematics as matched controls from the all-English program. In New Brunswick Gray (1986) evaluated an early-immersion program in which minimal English instruction was introduced in Grade 4. By the end of Grade 6 students reached the same level of performance as students of comparable ability in all aspects of English linguistic skills except spelling. In the Montreal area English-speaking students who had been in early double-immersion programs (French and Hebrew) did not show deficits in English language development by the end of Grade 5 (Genesee and Lambert, 1983).

In a study of writing skills in which students in Grades 4 and 7 wrote narrative compositions on assigned topics, Genesee and Stanley (1976) found that the comparisons made tended to favour the immersion groups. No general pattern of weakness appeared at these grade levels or in the evaluation of a Grade 11 group; it was suggested that the differences found were due to teacher and/or student characteristics rather than to the instructional program.

Q2. Does early immersion affect the general progress of students in subjects taught in French?

Standardized tests and some locally-constructed measures have also been used to examine student achievement in subjects taught in French. On the standardized tests used in two studies (Andrew et al., 1980; Pawley and Walsh, 1980), Grade 8 early-immersion students performed as well in science and mathematics as comparison groups of similar ability in the English program.

In Waterloo, Bryce (1980) found no significant difference in achievement in mathematics and environmental studies between Grade 3 students in a 50/50 program and a matched control group. In the Ottawa area, studies carried out in late-immersion classes found that, after two years in the program, achievement in mathematics, history and geography was no lower than that of comparison students in the English program (Halpern et al., 1976). A few studies of immersion students have shown differences between students in immersion classes and other groups in mathematics or in study skills at some grade levels (e.g., Andrew et al., op.cit.), but these results did not systematically favour one group. Typically, however, research studies have not detected differences in achievement in mathematics or in content subjects between students of comparable ability in English and those in French immersion programs. Wilson and Connock (1982) found that students in the 50/50 program were progressing reasonably successfully in basic skills in mathematics and English. However, in this case there appeared to be significant weaknesses in the attainment of objectives that stressed complex reasoning and applications of basic skills.

Q3. Do high school students learn as much in courses taken in French as they would if they had taken the same subjects in English?

At the secondary level, students begin to be concerned about preparation for later education. They want to be ready to take the next higher level in some courses and they want their marks to reflect their accomplishments. A study in Ottawa (Morrison and Pawley, 1983) shows that students who take science or mathematics in French are worried when they do not know the English technical terms in those subjects and feel that this lack will handicap them if they take similar courses in English in later years. Those who do experience this change in the language of instruction, however, usually report that the period of adaptation is short, even without explicit assistance from teachers. It is possible that students who think that they are weak in mathematics may feel more uncomfortable with instruction in their weaker language.

In the above-mentioned Ottawa study and in an earlier one carried out in the Carleton Board (Bennett et al., 1982*) the same multiple-choice tests were given in both languages to immersion students and in English to students in the regular program. Differences in achievement were not found in Grade 9 mathematics, either between groups or within the immersion group, when the test was taken in French or in English. In history, however, immersion students whose instruction had been in French did better when tested in English (the test taken first was in French for half the group and in English for the other). Since reading comprehension and knowledge of the subject matter are both factors in achievement on an objective test of this kind, it was suggested that lower reading comprehension skills in French might account for the difference found.

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* Not in annotated bibliography; see additional references for Chapter II in Appendix A.

Q4. What cognitive benefits will facility in a second language bring to the learner?

Some investigators have explored the question as to whether the two-language approach might in fact improve children's performance in certain areas. It was felt that knowledge of a second language might lead to greater linguistic sensitivity, more creativity or flexibility, better understanding of grammatical aspects of English, and so on. Lambert and Tucker (1972) refer to the transfer of skills from one language to another and relate it to the work of Vygotsky (1962*), who says that in a foreign language a child becomes conscious of grammatical forms and can transfer to his or her own language an increased awareness of linguistic operations.

Many studies conducted before 1960 found that bilingual children performed less well in school than unilingual children. However, the majority of these studies were carried out with minority-language children whose first language was being replaced by English or another dominant language, often without taking into account differences in socio-economic status (Cummins, 1979). In a study of English-Irish bilingual children and control groups of unilingual children, Cummins also found that at the Grade 3 and Grade 6 levels the bilingual children showed greater awareness of certain properties of language and were better able to evaluate contradictory statements. In another article, Cummins (1979*) states that "total immersion students quickly attain a level of French which . . . may enhance the development of their linguistic and cognitive abilities." Lapkin (1982) was unable to confirm or negate this hypothesis in a study of the English writing skills of French-immersion students at the Grade 5 level.

Barik and Swain (1976) carried out a study in which the IQ's of early French-immersion students and matched groups in the regular English program were examined over a five-year period. No increase or decrease was found in the IQ's of either group in relation to the other. It seems likely that, in order to detect cognitive effects of immersion, one needs more sensitive measures than IQ's from group tests, but little investigation appears to have been done in this area.

Discussion

The evidence presented by many investigators suggests that the French-immersion program does not, for most students, have a harmful effect on the development of basic skills in English or on the students' learning of subjects taught in French. However, the tests used have been rather limited in scope and there is much that is still not known nor understood about what actually happens in the immersion situation and about what is the best organizational pattern to follow.

Sometimes progress in content subjects has been evaluated using tests based on the specific content of the local curricula, but more often commercially available tests have been used. In Ontario one study (Wahlstrom, 1979*) has shown that published tests often do not measure some of the important objectives of the provincial curriculum guidelines.

The pattern for early immersion which was established in the pilot study in St. Lambert, Quebec, in the sixties has been followed with few exceptions in other early-immersion programs across Canada. This has meant that children in Kindergarten do not have the usual readiness program in their first language and that their first formal reading experiences are in their second language. This approach is contrary to widely accepted theories of reading instruction and the pattern followed for second-language instruction in English for young children who do not already speak that language. Unlike early French immersion (EFI), these first- and second-language programs tend to stress the importance of building on what the child already knows and the child's stage of first-language development. It may be that EFI practice has not shown negative effects because initially the typical child enrolled in these programs came from a supportive home environment, with good English language models and exposure to books and a variety of learning experiences. As French immersion loses some of its 'elitist' population bias, the question of the program's impact on English achievement should be reconsidered and evaluated further.

It has long been known that a child of eight learns to read much more quickly than one of similar ability who is only six. The limited evidence available indicates that this principle can be applied to learning to read in either the first or the second language. However, the first grade child who is beginning to learn to read in French comes to the task with a very limited vocabulary in the second language as compared to his or her working vocabulary in English.

There seems to be little evidence of coordination between the reading programs in the two languages, even in the partial immersion or 50/50 program. In at least one system (the Ottawa Roman Catholic Separate School Board), however, the language arts programs in the two languages seem to have been planned to encourage transfer and hence to "enhance the pupils' total reading skills" (Game, 1979*).

The choice of subjects to be taught in French seems, in most cases, to have been made on the basis of convenience rather than of any consideration of theory or empirical data. Mathematics, in particular, is a subject which does not provide much opportunity for second-language development. For some students the attempt to learn what is for them a difficult subject in the second language may increase unduly their fear of mathematics.

It seems reasonable to assume that knowledge of a second language will enhance a person's general education. Cummins (1979*) and others have suggested that greater sensitivity to grammar in the first language, as well as enhancement of vocabulary, should result from exposure to another language. It does not appear, however, that teaching methods have been developed for the specific purpose of encouraging such transfer.

III. FRENCH PROFICIENCY

Studies of the French proficiency of immersion students have attempted to measure skills in the four areas of listening comprehension, reading, writing and speaking. The first two are regarded as receptive skills and are often measured through the use of group-administered objective tests, while writing and speaking may be classified as productive skills and tend to require greater use of individual testing and of subjective measures of proficiency. Analyses of errors are possible, especially in studies of productive skills, and item analysis can give some diagnostic information with respect to the responses to objective tests. Tests of both kinds can provide information about students' knowledge of grammar or literary devices, understanding of literature and some aspects of cultural awareness.

It has been difficult for researchers to find or to develop tests suitable for use with immersion students. Listening comprehension tests, for example, have been developed for a series of studies of French as a second language in a variety of countries by the International Association for Evaluation of Educational Achievement (Carroll, 1975*), but these were not intended for use with immersion students. The Modern Language Centre of the Ontario Institute for Studies in Education (OISE) has developed several group tests of French proficiency designed specifically for use in immersion classes. Speaking tests have more often been developed by specific researchers or have been adapted from work done in the United States and elsewhere.

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* Not in annotated bibliography; see additional references for Chapter III in Appendix A.

The results of the various tests used may be interpreted in terms of the proficiency of a variety of comparison groups or may be used to provide relative rankings of students within a given group. When comparisons are made with early- or late-immersion programs in other jurisdictions, it is important to determine whether the programs are equivalent, at least in the distribution of instructional time. In the Ottawa-Carleton area, students in early immersion (EFI) ordinarily are taught in French during Senior Kindergarten and Grade 1. They then progress through the grades with increasing amounts of English instruction until about half the day is spent in French after Grade 5. The cumulative amount of French-language instructional time is about 5500 hours by the end of Grade 8 and 7000 hours by the end of Grade 12 or 13. Late-immersion (LFI) programs in the Ottawa and Carleton Boards of Education start in Grade 6 and Grade 7 respectively. The cumulative time is between 2000 and 2500 hours to the end of Grade 8 and about 3500 hours to the end of secondary school (see Table 1 in Appendix B for additional details).

Various other programs have been established in Anglophone schools in Ontario and elsewhere. These may be called partial immersion, middle immersion, 50/50 programs, or extended French (see Table 2 in Appendix B).

A few studies have also included comparison groups composed of students from one of the other types of programs mentioned or of students whose first language is French. Occasionally comparisons are also made between children in immersion and older learners, either secondary school students or adults. An attempt is usually made to find comparison groups of similar academic ability and initial French proficiency, or to carry out statistical analyses to compensate for differences in these attributes. Even when suitable comparison groups are not available, normative information can give some indication of the level of French proficiency achieved by French-immersion students in a variety of programs.

Other questions asked about French proficiency deal with retention and transfer, the influence of academic aptitude, and prediction of success in the immersion program. The available research related to these questions will be summarized in the following chapters of the report.

Q1. How does the French proficiency of early-immersion students compare with that of students in other groups?

Late immersion. In the Ottawa-Carleton area comparisons between early- and late-immersion groups at the Grade 8 level became possible when the first sizeable group of EFI students reached this level in 1979. This was the K-71 cohort, which had entered Kindergarten in 1971. The French proficiency of this cohort and of the group which followed it three years later was tested in Grades 8, 10 and 12 (see Table 3 in Appendix B).

There was significant growth from one of these grade levels to the next for all of the groups tested, and significant differences between EFI and LFI groups at the Grade 8 level and for some of the tests and at Grade 10 and Grade 12. The differences between EFI and LFI were greater for the K-71 cohort than for the groups tested three years later; this might have been expected, since the first EFI program was considered to be rather experimental and parents may have tended to enrol children only when they felt they were considerably above average in ability.

Similar results were obtained in a longitudinal study in Fredericton, New Brunswick (Gray, 1985 and 1986), although there was not as much variation among successive cohorts. Some of the comparisons between EFI and LFI have used subjects who were still in the elementary grades, when the EFI students had a greater relative advantage in terms of French instructional time. Shapson and Day (1984), for example, tested at the Grade 7 level in British Columbia and found that in some French language skills two groups of LFI students, after only two years in the program, attained comparability with those in early immersion. A province-wide evaluation at the Grade 9 level in New Brunswick (Lapkin and Swain, 1985) showed differences in favour of EFI students on a listening comprehension test, but not on the other tests used. The same researchers (Lapkin and Swain, 1984b) found differences between EFI and LFI students at the Grade 9 and 10 level in the Carleton Board of Education. In Montreal, Genesee (1983) also found that overall comparisons favoured the EFI students, at least to the end of Grade 8.

In a study carried out in 1985-86 at the Grade 13 and first-year university levels (Wesche et al., 1986) some differences in French proficiency continued to be found between EFI and LFI students. In a previous study at the Grade 12 level (Morrison and Pawley, 1986), however, differences between the groups were found only on the individual speaking tests used. The other tests used in this study were designed as screening tests for the general population of students entering the University of Ottawa and appeared to be rather easy for the immersion students, while an attempt was made in the Wesche study to use more difficult versions of the same type of test.

Another study in Ottawa-Carleton (Pawley, 1982) examined the ability of LFI and EFI students in Grade 10 to write a persuasive letter. Ratings on general impression and several other characteristics showed few differences between the groups. It appeared that inadequacy of vocabulary and the influence of English were the sources of many of the errors in the written French of both groups of immersion students at the Grade 10 level.

Middle immersion. At least two middle-immersion programs have been in existence for ten years or more, with relatively little formal evaluation. In these two (the Lakeshore Board in Quebec and Metropolitan Separate School Board in Ontario) the program has become increasingly popular and in one case an evaluation is now under way. In these two systems, the grade level for entry into immersion, the proportion of time spent in French and the type of secondary level program are all different.

Other variations are also known as middle immersion and, in some cases, evaluators have been able to compare the students in programs with entry points at the Grade 4 or 5 level with those in other immersion programs. In one study (Lapkin and Swain, 1984a), a single class of middle-immersion students in Toronto who had been in the program from Grade 4 to Grade 6 was compared with two classes of EFI students from socio-economically similar schools. The difference in listening comprehension between the two EFI classes was greater than the difference between the middle-immersion class and the other two. After scores had been adjusted for differences in scholastic aptitude, no significant difference in French reading comprehension was found among the groups.

Cziko (1976) found that a Grade 4 class of middle-immersion students was reading as well as a class of students who had been in EFI for four years. After controlling for non-verbal intelligence, correlations between English and French reading ability were significant for both groups. This result, although based on very limited data, suggests that both groups were able to transfer the reading skills developed via one language to the language introduced later. Cziko pointed out at that time that further research is clearly needed to isolate the effects of the sequencing and timing of second-language reading instruction, as well as to determine the role of early French-as-a-second-language programs in providing a foundation for success in later French-immersion programs. Such research does not seem to have been undertaken in the subsequent ten years.

A Grade 4 entry program was established in Ottawa in the fall of 1985. In this initial group of 60 students there were three times as many girls as boys and the students were more like the total population of the EFI students than of those in the regular English program. At the end of one year in middle immersion the French reading achievement of the students was significantly lower than the end-of-year results of a group of Grade 3 students who had been in an EFI program for four years (Parkin _et al_., 1986).

Partial immersion. Various different programs, identified as partial immersion (PFI) or 50/50 programs, have also been established in Ontario and elsewhere. They have differed with respect to starting time, admission criteria and other factors, and the amount of systematic evaluation has been limited. In the Ottawa Roman Catholic Separate School Board (ORCSSB), Edwards _et al_. (1981) found that the French language skills of PFI pupils in Grades 1 through 4 were well above those of children in an extended core program of earlier years (60 minutes a day, with a subject taught in French) but below those of EFI students at the same grade level. In this PFI program almost all students participated; they had a full-day bilingual Kindergarten (later dropped for financial reasons) before entering the 50/50 program, and during Grade 1 reading was introduced in both languages. Similar French proficiency results were found in a later study in Grades 3 to 5 (Edwards _et al_., 1980). Parents and school staff, however, felt that a suitable alternative and increased remedial programs were needed for some pupils. The researcher suggested that a systematic effort would be needed to maintain the skills acquired in the PFI program. A similar program established by the Roman Catholic separate school board in Cornwall was evaluated by Edwards and Fu (1981), who found that Grade 2 pupils in this system were ahead of a comparison group from Ottawa separate schools in French comprehension, although their English reading scores were lower.

Francophone students. Several researchers have been able to make comparisons between immersion students and native speakers of French. Crawford (1984), for example, found that Grade 6 EFI students in North York scored at the 30th percentile on a test intended for Francophone students at this grade level. Similar results were found in Ottawa at the Grade 10 level, where mean scores of EFI students on a test of paragraph completion and vocabulary tended to be at about the 35th percentile, while those of LFI students were somewhat lower (Morrison et al., 1982). Grade 9 students in New Brunswick (Lapkin and Swain, 1985) and those at several grade levels in Montreal (Genesee, 1978b) performed as well on a listening comprehension test as a comparison group of Francophones. On the other hand, Gray (1985) found that at the Grade 9 level in Fredericton, immersion students were about a year behind a Francophone control group on measures of reading comprehension and language arts and about two years behind in listening comprehension.

As far as speaking and writing are concerned, most data suggest that the French language skills of immersion students are below those of Francophone comparison groups (Swain and Lapkin, 1981; Lapkin and Swain, 1985). Analyses of the speech of immersion students indicate that they use a smaller variety of verb forms than Francophones and appear to avoid certain structures (Harley and Swain, 1977; Hamayan and Tucker, 1979).

Submersion/Classes d'accueil. For immigrant children in Quebec and for some Anglophone children in other provinces, development of French proficiency may be achieved by 'submerging' the child in French through enrolment in a French-language school. 'Classes d'accueil' in such schools in Quebec are intended to be transition classes for children whose home language is not French. A few studies have examined the progress of children in these classes, which become more like immersion classes when all of the children speak the same first language or when most of them speak English at home. Genesee et al. (1985) found relatively few differences at the Grade 4 level between early- and middle- (Grade 4-entry) immersion students and those in 'classes d'accueil' consisting predominantly of Anglophone children in a French-language school. He suggests that there may be an upper limit to the second-language proficiency that can be achieved in a school context without substantial opportunity for peer interaction in the second language.

Public Service Commission (PSC) Tests. The reasons both parents and students give for enrolling in immersion or for continuing in the secondary program tend to emphasize the importance of being bilingual as preparation for future employment. This is particularly true in the Ottawa area, where many federal positions have been classified as bilingual.

Although changes have since been made in the PSC testing program, it was possible on at least two occasions (Kirby, 1977a; and Morrison et al., 1982) for groups of late-entry students at the Grade 12 level and of early-entry students at the Grade 10 level to take the Language Knowledge Examination (400B). On this test, 80 per cent of the Grade 10 students reached the higher level (B) of bilingualism on the writing and listening tests and over half also were at this level in reading. On the speaking test, however, a significantly lower proportion (38 per cent) reached the same level. The mean scores of the group of Grade 12 students who had been in a late-entry program were not significantly different from those of the Grade 10 early-entry students.

University of Ottawa tests. On a test of French proficiency taken at the University of Ottawa, over 90 per cent of a Grade 12 group of both EFI and LFI students obtained scores which were high enough to excuse them from the required French language course at this university (Morrison and Pawley, 1986). In a later study of students actually attending the university, similar results were found (Wesche *et al*., 1986).

Self-assessment. Proficiency test results for immersion students rather consistently show differences between the level achieved on measures of speaking and writing and those of reading and listening comprehension. The students' own assessments of their skills support these findings. When Grade 12 and Grade 13 students in Ottawa were asked whether they felt confident of their ability to use French, over 75 per cent replied affirmatively with respect to listening and reading, but only 40 per cent were confident of their speaking ability (Bonyun, 1985). The Wesche study at the University of Ottawa (*op. cit*.) found the same tendencies at the first-year university level.

Q2. How well do students retain their French language skills after they leave the immersion program?

Since growth continues to occur in most of the French language skills of immersion students as they progress through elementary and secondary school, relatively little attention has been paid to the issue of retention. It is well known, however, that if one does not use a language, even though it may be one's mother tongue, the ability to communicate in that language will decrease. The experiences of some members of families which originally came from non-English-speaking countries support this generalization.

Follow-up studies which give some evidence concerning retention of French proficiency by former immersion students were carried out in the Montreal area (Adiv, 1980b). In several cases the differences between results for students who had been in an EFI program (K-8) and those who had been in an LFI program (Grades 7 and 8) decreased as the students progressed through Grades 9 to 11. In an overview of the Peel study carried out in 1979, it was suggested that the high school program in that system was sufficient to maintain but not to enhance the second-language performance of LFI students (Lapkin *et al.*, 1983).

A study in Ottawa of a small group of Grade 10 students who had not continued in the immersion program after Grade 8 (Morrison *et al.*, 1985) found no significant difference between the former EFI and LFI students on a test of French reading skills and language usage. However, at the Grade 10 level the total group showed a significant improvement over their Grade 8 scores on the same test, suggesting that their immersion experience had provided a useful foundation for further learning in French outside of the immersion program. A similar result was found with a group of students enrolled in an extended French program for two years (in Grades 4 and 5); their French proficiency at the Grade 6 level was significantly greater than that of students at the same grade level whose somewhat greater exposure to French had been spread over the entire K-6 period (Morrison *et al.*, 1980*).

Q3. What kind of mistakes do immersion students make in speaking and writing?

Several investigators have analysed the speech and writing of immersion students, sometimes making comparisons with Francophone students of the same age or with other appropriate comparison groups. Crawford (1984) compared compositions written in English and in French by immersion students and found that those written in English tended to be superior and to contain fewer errors. Lapkin and Swain (1977) compared responses of immersion students to those of Francophones on a cloze test. They found that the former group made more errors but that the errors of both groups were similar in type, suggesting that they used similar strategies in processing the passages.

Adiv (1980a) carried out a detailed error analysis of an oral production test involving a number of grammatical features. The results indicated that children's competence in this area appeared to improve from Grade 1 to Grade 3 and then to remain stable from Grade 3 to Grade 5. This finding coincides with observations of what has been called the 'plateau effect' among immersion students at the junior level (Parkin _et al_., 1986; Harley, 1984).

As in studies of other groups of second-language speakers, it appears that immersion students develop a form of 'interlanguage' in which some aspects of standard French do not appear. Harley and Swain (1977), for example, found that in a group of Grade 6 immersion children the variety of verb forms used was smaller than in the case of native French speakers of the same age. In particular, the immersion students did not appear to be able to use the conditional verb form but often made use of 'peut-être' with the present tense of 'aller' and an infinitive to convey the hypothetical context.

On an experimental speaking test designed to elicit certain specific grammatical structures (Morrison *et al*., 1982), both EFI and LFI students tended to make similar types of errors (for example, with past and future verb forms and with certain pronouns). However, they appeared to have little difficulty with the use of several negative forms. Lack of adequate vocabulary and a tendency to use many anglicisms are sources of many errors made by immersion students when speaking or writing French.

Q4. Is there an optimal age for starting second-language instruction?

There is no simple answer to this question. Both an early start and a delay until the middle or later years of elementary school have their advantages. Genesee (1978*), in an article with the above title, says that the older learner is in general a more efficient learner, but that early instruction offers the advantage of more available time and possibly more opportunities to learn. He concludes that "the combined advantages of extended time and opportunity furnished by early instruction probably make it more conducive to attaining the higher levels of second-language proficiency". However, he also points out that teaching methods need to take full advantage of these assets. Moreover, both early- and late-immersion students attain a useful level of facility in French, in spite of differences in both the age of starting and the amount of exposure to French-language instruction.

Harley (1984) found similarities in the French verb acquisition of a small group of Grade 1 immersion students and another group at the Grade 9 and 10 level who had had about 1000 hours of exposure to the second language. Some of the differences found, such as in the use of third person plural forms, could be attributed to the greater maturity of the second group and to greater emphasis on formal grammar in the older students' classrooms.

In a 1982 survey of 178 graduates of late immersion and high school bilingual programs in the Ottawa area, most of whom had entered the program in Grade 7 or 8, Bonyun (1983*) found that about half the group felt Kindergarten or Grade 1 was the best time to enter immersion. These graduates made comments such as "They are not concerned with marks" or "They are not embarrassed to try to speak French". On the other hand, one in four said that a program like the one they had followed was best, saying that it is better to get a strong foundation in English first. In another study it was found that 80 per cent or more of early-immersion students in Grades 12 and 13 also preferred the early start (Bonyun, 1985).

The reasons put forward by those parents who initiated the first early-immersion programs in St. Lambert and by many of those who introduced the same organizational pattern elsewhere emphasized the notion that it is better to acquire languages before puberty. Genesee (1983*), who agrees that the EFI students do appear to reach a higher level of French proficiency, rejects most of the early arguments and feels that the question of an optimal age for second-language learning in a school setting cannot be dissociated from the question of optimal methods of instruction for learners at different age levels.

Q5. Can immersion students communicate effectively in French in out-of-school situations?

Although immersion students have communicative competence far beyond that achieved by students in the usual French-as-a-second-language programs of the past, their proficiency in speaking is relatively low in comparison with their ability to understand French and to read it. In particular, the limitations of the classroom environment do not encourage the students to perform like native speakers of the language in social situations.

The researchers in the Montreal area (e.g. Adiv, 1985; Bruck *et al.*, 1974) point out that students in immersion programs could communicate effectively, in spite of errors and anglicisms, but few details concerning this generalization are given. Edwards (1976) made a similar comment in an early report on immersion programs in the Ottawa area, adding that these students were not 'perfectly bilingual'. It has also been shown (Genesee *et al.*, 1977) that differences in academic ability do not appear to affect the achievement of interpersonal communicative skills.

Since it is difficult to measure 'communicative competence', it is not surprising to find that data related to this aspect of French proficiency are limited. Moreover, the school classroom is obviously not a good place for learning to talk in social situations in a language which is the second language for all of those present except possibly the teacher. Ireland *et al.* (1979) point out that much more effort appears to be made in Kindergarten and Grade 1 than later in the elementary school to provide structured activities intended to encourage speaking. By the early high school grades the emphasis on the academic content of subjects taught in French may tend to discourage discussion, particularly when the students have limited ability to communicate ideas in their second language. Several students in one study (Morrison and Pawley, 1983) shared the views of one who said, "I can't express my opinions as well in French [as in English] and end up not participating as much."

Harley and Swain (1984) mention earlier observations of the non-native-like performance of immersion students on sociolinguistic tasks. These were supported by recent studies of these students' use of the conditional. Compared with native speakers of French, they did not have adequate knowledge of its use in different contexts, showing a tendency to under-use this verb form in formal situations and to over-use it in an informal context. Lightbown (1978) found similar differences in the use of verb inversion in questions ("que penses-tu?") between young Anglophones in a 'submersion' situation and their Francophone peers.

Hamayan and Tucker (1979) examined communication strategies used by children learning French as a second language in Grade 3 and Grade 5 immersion classes. In retelling a story, the extent to which the children avoided the five specific structures being studied depended on the structure and the grade level. It appeared, however, that although they avoided some of these structures, such as indirect speech or the past participles of '-re' verbs, they were able to communicate the idea by paraphrasing. For example, they might say "Ils ont fait" instead of "Ils ont construit", or "Ils ont dit : Non, tu n'es pas un prince" instead of "Ils n'ont pas cru qu'il était un prince".

One of the comparison groups in this study consisted of Anglophone children attending a French-language school ('submersion');

these children, who had more exposure to French through interaction with Francophone peers, avoided structures more often through paraphrasing than those in the immersion group. The researcher concluded that avoidance could be useful to the language learner as a strategy of communication if a certain level of competence has already been achieved. In another context, Genesee _et al_. (1985) also underline the importance of peer interaction in the second language and suggest that there may be an upper limit to second-language proficiency that can be achieved in a school context without such interaction.

When former LFI students at the postsecondary level were asked what they would recommend to an elementary student wishing to learn French (Bonyun, 1985*), about a third of the respondents mentioned the importance of exposure to the French language outside of the classroom, and about ten per cent specifically mentioned exchange programs. In an evaluation of summer bilingual exchanges Morrison _et al_. (1978*) found recurring comments that the experience had increased the participants' confidence in speaking French. Typical comments were that "It made me realize I could communicate better than I thought I could" and that "It gave me insight into how much French I had learned in school and of what I was capable outside of school".

Discussion

Because French immersion was truly an innovative development in education, many things were lacking at its inception - a body of pedagogical theory, a cadre of optimally prepared teachers, a variety of texts and classroom materials, and also standards of performance and appropriate methodologies for documenting students' attainment of those standards. The reports summarized in this chapter indicate that a great deal of expense and effort have been devoted to attempts to demonstrate the efficacy of French-immersion programs for the development of students' proficiency in French. These efforts have been hampered by lack of clarity as to what needed to be measured as well as by a lack of suitable measurement techniques.

Among the questions which continue to be asked by parents and administrators are those which have to do with normative data. They want to know, for example, how the reading and writing skills of immersion students compare with those of Francophones of the same age. Parents and others also ask about the relative effectiveness of various programs; comparative studies of late, early, and middle immersion seem to be needed. Teachers need to have more information about what the children are learning and how their proficiency could be improved.

In the long run all of these questions are related to the ultimate objective of being able to function in French in the 'real world'. Could a student who scores well on a test of listening comprehension understand the classroom teacher giving a new lesson, a news broadcast on Radio Canada, the callers on a talk show? Is it likely that students who score well on a speaking test can make themselves understood by the teacher, by a Francophone relative, by a tourist from Quebec City asking directions to the Byward Market? More than in most areas in education, the learnings achieved in French-immersion programs can be related immediately to possibilities outside the school setting. However, the questions of proficiency are by no means simple and the standards of adequacy by no means clear.

In the early days of the immersion programs there was a general euphoria, particularly about early immersion, a great deal of which remains. Unilingual parents have continued to be impressed when their Grade 1 children could apparently speak the language and understand what was said to them. The students suffered no apparent loss of English-language skills and continued to increase in French proficiency. It looked as though they might be headed for 'perfect bilingualism'.

It soon became clear that the students were learning to use French in a way which was astonishing to the generations of students who had preceded them. But after 8, 10 or 12 years in early immersion, many students were still uncomfortable about speaking French in social situations. They still included many anglicisms and grammatical errors in their speech and writing although they seemed to understand what they heard or read in French. However, they still avoided certain commonly used structures, did not read French newspapers or novels, and worried about getting good marks if they took a subject taught in French at the high school or university level.

It also seems clear that the academic emphasis in many secondary school courses taught in French does not lead to encouragement of verbal interaction in that language. More systematic efforts to broaden students' exposure to French, perhaps through plays, lectures, television, and films, and more effort to foster occasions to use French in informal situations or in work experience could help to remedy some of the students' weaknesses in communication skills.

It may be that the long-time emphasis on learning a subject taught in French as being equivalent to learning it when instruction is given in English has lessened the possible benefits of the programs. In many situations it should be feasible for students who take a course given in French to obtain an additional credit in the second language. Assistance in second-language development would then be part of the course, as is the case in the 'sheltered' courses given at the University of Ottawa. A pattern of team teaching by second-language teachers and subject-matter specialists in other areas could be developed for this purpose.

The emphasis on comparative studies has led to continuing use of the same tests in longitudinal or cross-sectional studies. This has had the effect of limiting the search for new and better instruments by the researchers who were asked to make these comparisons. As the limitations in our knowledge about the effectiveness of immersion programs begin to appear, it is to be hoped that recognition will be given to the great need for additional development of both tests and standards of achievement.

Many of the available tests have been prepared for second-language learners in the United States or in other countries, such as the tests of the International Association for the Evaluation of Educational Achievement (Carroll, 1975*). Speaking tests have been developed for school children learning English as a second language in both Great Britain and the United States, and for adult learners in foreign-service situations in both countries. Most of these are not designed for use with elementary school children in immersion classes, although the rating scales used elsewhere can be adapted for use at this level. Such global measures do not provide the kind or quality of information needed for optimizing the programs or enhancing student performance. Listening tests for immersion students have been developed by the Modern Language Centre of OISE, and teachers in the Carleton Board of Education have developed reading tests designed for use in early-immersion classes from Grade 1 to Grade 8. Such groups as those at OISE, the OBE Research Centre, and the Centre for Second Language Learning at the University of Ottawa have developed speaking tests, cloze tests, self-assessment instruments and other measures specifically for use with immersion students and/or FSL groups at the high school and university levels.

Answers to questions about comparisons with Francophone students require that suitable tests be available and that these tests be administered to appropriate groups. But the Francophone community in Canada provides a relatively small market for standardized tests and a published series of reading tests is not available. The Province of Quebec has developed some tests for administration each year on a province-wide basis, and some of these (variously known as _Tests de français_ and _Tests de rendement_) have been used with immersion groups. Listening comprehension and speaking tests, on the other hand, are seldom used with native speakers of a language.

In spite of the limitations mentioned above, it has been possible to make some comparisons across immersion programs and between immersion students and some other groups. In addition, a certain amount of work has been done in identifying the linguistic usage patterns of immersion students, including the forms and strategies involved. This work, while expensive to pursue, has the potential for being highly instructive in its implications for classroom practice.

IV. CULTURAL KNOWLEDGE AND LANGUAGE USE

Q1. To what extent do French-immersion students use the language outside the classroom?

Even though students in places like Montreal and Ottawa have more opportunities for contact with the French-speaking community, it appears that few immersion students in any part of Canada use French very much outside the classroom. Genesee (1978a) found that in the Montreal area immersion students were generally satisfied with their programs, but there was no evidence that they sought opportunities to express themselves in French. In Peel the typical late-immersion student responding to a survey of language use at the senior high school level said that French was 'hardly ever' used outside school (Lapkin et al., 1983).

Although the possibility of direct contact with French-speaking people is obviously greater in Montreal and Ottawa than elsewhere, Anglophone students in these areas do not appear to take advantage of their opportunities. Wesche et al. (1986), for example, found that at the bilingual University of Ottawa students from early- and late-immersion programs in the Ottawa and Carleton Boards of Education reported an average of two hours a month watching television in French, an amount which is considerably lower than the national average for young adult TV viewing as reported by the Bureau of Broadcast Measurement. The average student read one French book in three months, and attended one French movie every two months, and spent about four hours monthly using French in other situations, including sports and social occasions.

A similar pattern has consistently been found in surveys of immersion students at the secondary level in the Ottawa-Carleton area. In a follow-up study of the use of French by immersion graduates, de Vries (1985) interviewed over 400 former students from programs in the Ottawa-Carleton area. About three-quarters of those with a job spoke French some of the time, mostly to customers and other employees. Half of the total group claimed that they had never seen a film or play in French, and about the same proportion said they 'sometimes' used French in conversing with friends.

Q2. How do immersion students differ from others in their knowledge of French-Canadian culture?

It seems clear that in the typical immersion classroom at any grade level students have direct contact with French-speaking people only through their teachers and perhaps through occasional field trips. Bilingual exchanges, on the other hand, and some locally arranged activities do provide an opportunity for direct contact with the French-language community. Television and the French-language press provide additional opportunities for learning in many communities, but little effort appears to be made to integrate these into the school program.

In a follow-up study in 1982 of 178 students who had completed Grade 12 or 13 in bilingual programs in Ottawa-Carleton two or three years earlier, Bonyun (1983) asked what effects the immersion program had had on their high school career and on their experiences since leaving high school. Among the positive effects of the program, about 10 per cent of the respondents mentioned their increased knowledge of French-Canadian culture and the development of more openness toward people of different cultures. However, very few had attended Francophone universities or had taken courses in French at a bilingual institution.

In British Columbia, Day (1982) found that Grade 7 students showed significant gains in knowledge of French-Canadian culture after participating in a bilingual exchange trip to Quebec. At the Grade 6 level in the same province it was found that immersion students had more positive attitudes toward French language and culture than those taking core French at the same grade level (Shapson and Day, 1982a).

In a recent overview of French immersion in Peel, Kirkwood *et al.* (1986) found that more than half of the 278 parents of students in Grades 7 to 12 who responded to a questionnaire indicated that they had become more interested in French language and culture as a result of their child's participation in the immersion program. Although less than 10 per cent of the children had participated in a bilingual visit, taken extra French courses, or lived for more than a month in a French-language environment, one in five had attended a French-language camp and two out of three had acted as interpreters for family members or friends.

Discussion

Helping students to acquire both knowledge of French-Canadian culture and the ability to use French language in 'real life' situations should be among the primary goals of teachers in the French-immersion programs. However, with little guidance regarding the desirable emphasis or appropriate pedagogical strategies, teachers may cease to pay much attention to the second of these objectives as soon as the students can understand the language well enough for the teaching of subject matter to be carried on in French.

As was pointed out in the section on French proficiency, students reach the point of being able to learn through the medium of French-language instruction well before they achieve an effective level of oral communication skills. Thus one would expect a shift away from the teaching of communication skills to occur before oral production skills have achieved the desired level. A predictable consequence of this situation would be a limitation of the students' ability to use French for communication in 'real life' situations. Until students encounter situations, such as exchanges, which require them to use French for purposes of genuine communication, they are likely to remain limited in both their confidence and competence, regardless of their apparent fluency.

Regarding the goal of acquiring a knowledge and understanding of French-Canadian culture, it seems that little is actually being done to increase knowledge of matters specific to the French-Canadian scene nor to discuss political issues of particular concern to Francophones in Canada, except incidentally in French literature courses and occasional units in history and geography. The viewpoints of English- and French-Canadian history and culture are necessarily different. Nevertheless, great emphasis has been placed on the comparability of curricula between courses taught in French and those taught in English, possibly to the detriment of learning about this other view of Canada. In Grades 11 through 13 it should be possible to introduce parallel courses in subjects such as drama, history and sociology which would emphasize French-Canadian issues and culture.

Instead of worrying about whether students have 'lost' anything because of learning geography or chemistry or history in French, perhaps the emphasis should be on what has been gained, namely an increase in vocabulary so that they can talk about technical subjects easily in either language, an appreciation of themes that may be the same or different in English- and French-Canadian poetry (Margaret Atwood's notion of the 'survival' theme in Canadian literature, for example), or an understanding of differences in point of view that may come from a different historical perspective.

The school system might well take the position that a good foundation has been laid and that it is the student's responsibility to build on it. However, those who are sincerely concerned with improvement of the immersion program should consider ways of helping students to develop enough confidence to feel more comfortable than most now do in situations where French is the majority language at work or in postsecondary education.

V. PREDICTION OF SUCCESS AND TRANSFER PROCEDURES

Q1. How well can success in French immersion be predicted?

Longitudinal studies in the Ottawa area have made it possible to examine the predictive value of tests taken when students enter an immersion program. In one study (Wightman et al., 1977) a number of predictors of French proficiency were examined. In this situation a multiple-choice test of 'useful French vocabulary' was the best predictor of end-of-year reading and listening comprehension for late-immersion students and also for those in an extended French program.

In another study in the same area (Morrison and Pawley, 1986) it was found that several measures of French proficiency at the Grade 8 level had correlations of 0.60 or more with the total score on a French proficiency test taken by Grade 12 students who had been in early- or late-entry immersion and in secondary-level French-language programs. The multiple correlations involving two or more of these measures were about 0.70. In an earlier study (Pawley and Walsh, 1980) it was found that correlations between Grade 10 French proficiency scores and two measures of English verbal aptitude obtained at the Grade 8 level tended to be around 0.50.

Another follow-up study in Ottawa was carried out with a group of children who had enrolled in four-year-old Kindergarten and who were expected to enrol in French immersion the following year (Trites and Price, 1980; Trites and Moretti, 1986). Although the emphasis was on identifying children who would not succeed in the program, data from all of the children who remained in French immersion were obtained on a battery of French proficiency tests given at the end of Grade 1 and again in Grades 4 and 5. Predictive data had been obtained from one assessment battery given at the end of four-year-old Kindergarten and another set of tests a year later.

Using a French comprehension test as one of the criterion measures at the Grade 1 level, Trites obtained a multiple correlation of 0.63 with four of the first group of predictors (a readiness test dealing with sounds of words, the child's age, an individual intelligence test, and a rating by Junior Kindergarten teachers of the child's attentiveness/non-passivity). This was increased to 0.70 by adding four more measures and to 0.76 by using all 43 predictors obtained at the four-year-old Kindergarten level.

At the Senior Kindergarten level a multiple correlation of 0.64 with the Grade 1 French proficiency test was obtained using only two of the 34 predictive measures obtained at that time, the French comprehension tests and the Senior Kindergarten teacher's rating of attentiveness/non-passivity. A multiple correlation of 0.76 was also obtained using all of the predictive tests administered in five-year-old Kindergarten.

In their follow-up study of these students when they reached Grades 4 and 5, Trites and Moretti (1986) included high achievers in immersion or the entire group of continuing students in most of the comparisons made, obscuring the frequent evidence of similarity between drop-outs and the lower achievers who remained in French immersion. The study does include evidence of differences between two groups of drop-outs - one group of 17 which had left immersion by the early months of Grade 1 and a second group of the same size which had transferred between Grade 2 and Grade 5. Some statistically significant differences between the earlier and the later drop-outs were found, with respect to the socio-economic status of the parents, which was higher for the early drop-outs, and with respect to some personality factors at the Grade 5 level. The 1986 report does not include correlational data which can be compared with the data mentioned earlier in this section. It is not entirely clear how the children were identified as dropping out 'for academic reasons', especially at the Kindergarten level, but the source of information appears to have been parent reports.

Sudermann (1981) found that an English-language readiness test predicted success in reading in French for Grade 1 immersion students and in English for students learning to read in English; the correlations were 0.57 and 0.67 respectively. Other predictive measures used, including a teacher checklist, had somewhat lower correlations with Grade 1 reading scores (see also Tourond et al., 1977). It was concluded that similar procedures appear to be applicable for identifying special learning needs in both programs.

Q2. Should a child who is below average or language-disabled be permitted to enrol in French immersion?

The impression given by many reports of French-immersion programs across Canada is that the children who enrol are above average in ability and without specific disabilities. It is true that in many communities, either because of self-selection or through restrictive selection procedures, or both, the children who follow the immersion program are above average in their school achievement, but this is not the case in all systems. In the Lakeshore Board of Education on the island of Montreal, for example, 75 per cent of the children now enrol in middle immersion, with a high retention rate.

The teachers there adjust their methods to deal with a fairly wide range of ability (P. Conn, personal communication).

Genesee (1976) has paid particular attention to this issue. He found significant differences between students in Grades 4, 7 and 11 with above- and below-average IQ's on measures of French reading and language usage, but not on measures of listening comprehension and communicativeness.

In Montreal Bruck (1978) has examined the progress of children who were identified as language-disabled in both immersion and regular English classes. In this study it was found that at the Grade 1 level the two groups of children with language impairment were similar in their English linguistic abilities. Teacher reports indicated a great improvement in the French expressive skills of the children with language disabilities during Grades 2 and 3. The French proficiency of these children had been somewhat less than that of the non-language-impaired students during their first two years in the program, but by Grade 3 their performance on a listening comprehension test was similar to that of the control group in the same program.

In a study which followed immersion children in the Ottawa RCSSB from Kindergarten to the end of Grade 5, Edwards (1976) found no evidence at any grade level of a greater tendency for these children than for those in the regular English program to have more learning difficulties. Morrison, Martin and Martin (1978) compared students in their sixth year in immersion who were classified as low-performing with a comparable group in the English program, as well as with a group which had transferred. Although this study used many of the measures used by Trites and Price (1976) earlier, it did not find specific characteristics which were consistently associated with low performance in French immersion. On several measures, such as the teachers' rating of behaviour and a non-verbal ability measure, the transfer group tended to have higher scores than either of the low-performing comparison groups.

In an overview of learning difficulties in immersion programs, Cummins (1984*) summarized the evidence from these and other sources and concluded that bilingual and immersion programs are appropriate for children with a wide range of learning abilities and language skills. Like Bruck, he suggests that the issue of concern should be to find ways in which French-immersion programs can be made more suitable for children with different needs and abilities.

Q3. What are the characteristics of students who transfer out of French immersion?

Students transfer out of immersion for a wide variety of reasons, but identifiable learning disability is seldom a factor. Several studies in the Ottawa and Carleton Boards of Education have examined the characteristics of children who transfer from early French immersion to the regular English program between Kindergarten and Grade 6 (e.g. Morrison, Martin and Martin, 1978; Bonyun et al., 1986). The typical transfer student appears to be one who is somewhat above average in academic ability and without any identifiable learning disability. Reports made soon after the transfer suggest that the need for a change of program was not looked on positively by several of those involved, and for many children a period of special assistance was needed. However, in most cases children showed a significant improvement in academic progress and in attitude after the transfer. The earlier study had found little evidence of a detrimental effect of the transfer; a lower proportion of transfer students than of those classified as low-performing in French or English were in a grade below the expected level.

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* Not in annotated bibliography; see additional references for Chapter V in Appendix A.

Trites and Price (1980) found that the scores on some readiness and other aptitude tests were higher for an 'academic drop-out' group than for low achievers who remained in immersion, although in most cases the differences were not significant. Several of the transfer children in his study had repeated a grade, but it is not clear when the children had made the transfer. Other limitations in the analyses (Cummins, 1979) make this part of the study of little value in assessing the relative effectiveness of transferring as compared with remaining in French immersion.

If the transfer occurs in Grade 1 or Grade 2 it is likely that the child's reading skills in English are below the expected level, but for later transfers English-language achievement tends to be average or above average. Since the child who transfers from the early-immersion programs in this area during the first two grades has ordinarily had little instruction in reading in English while in immersion, it is inappropriate to use improvement in reading scores during these grades as evidence of the success of transfer in comparison with the achievement of children who remained in the program, as is done by Trites and Price (1977).

In the 1983 follow-up by Trites and Moretti (1986), 18 students who had been classified as academic drop-outs and 78 who had remained in French immersion completed a questionnaire. About the same proportion (72 and 63 per cent, respectively) said they had very good friends who were French speaking and three out of four in each group said that they spoke French with these friends all or part of the time. Not surprisingly, a higher proportion of the transfer group felt negative about speaking French, both in class and outside of school. However, a third of the transfers said they wished they were still in immersion, and two thirds said they still wanted to learn to speak French.

Adiv (1979b) conducted a survey of secondary-level students who had not continued in postimmersion programs in the Montreal area. The reasons given tended to emphasize the heavier demands made by the immersion program. In an earlier study in Ottawa (Morrison et al., 1979) concern about getting lower marks in a course taken in French and flexibility of course selection appeared to be the most important reasons for not continuing in the program.

In a study of a group of children in Grades 2 to 4 who were classified by their teachers as low-performing in French immersion, Bruck (1985a,b) found that while the children in this group had experienced academic problems their difficulties were no more severe than those of children who did transfer. However, a pattern of poorer attitudes and non-academic behaviours was found in the transfer group. When the children were retested a year later, improvement had occurred in both groups and few direct consequences of transfer were found. However, when the parents were asked about effects, they reported a change in their children's attitudes toward school.

Q4. What reasons are given by parents and students for the decision to transfer a child out of French immersion?

It has been noted in more than one study (Trites and Moretti, 1986; Bruck, 1985a, 1985b) that parents of transfer students and of those remaining in the immersion program have similar reasons for enrolling in the first place. The reasons parents give for taking the children out of the program have also been examined (Bonyun *et al*., 1986). The major reasons indicated by 15 per cent or more of nearly 200 parents of children who transferred before the end of Grade 3 were these: difficulty in understanding and speaking French, relations with the immersion teacher, emotional or behavioural problems, and lack of remedial help while the child was in the program. In Grades 2 and 3 about a third of the parents also mentioned difficulty in reading in French or English. In the Ottawa Board 12 per cent of the parents mentioned lack of challenge or boredom as a reason for leaving the program (Morrison *et al*., 1985*). These responses were consistent with those given in a similar study several years previously (Pawley *et al*., 1978*).

In another study in the Ottawa area, Grade 9 and Grade 12 former immersion students in the two public boards were asked why they had not continued in the high school program (Morrison *et al*., 1979). Among the 105 students who had not continued at the time of the transition between Grades 8 and 9 the largest number felt that they would do better and learn more in courses taken in English or found that the courses they wanted to take were not offered in the high school bilingual program. At least a third indicated that poor teaching, personality conflicts with teachers, or disappointment with the program had some influence on their decision to leave the program. The decisions appeared to be affected by a variety of reasons; students were rarely influenced by one factor alone. Similar responses were given by the smaller group (N=42) of Grade 12 students who had not continued in the program; concern for marks and problems of course selection were said to be of greatest influence.

Discussion

There is evidence that ability to communicate in a second language is not closely related to traditional measures of scholastic aptitude. Among children the ability to communicate at an appropriate level appears to develop very quickly. At the high school level, success in an advanced-level course like history or science which is taught in French will depend not only on ability to understand instruction given in that language but also on being able to deal with the concepts being presented in the course.

Many parents of preschool children seem to be looking for a suitable battery of tests which can predict success in the immersion program. Attempts have been made to find predictive measures for this purpose, but the very limited results have been similar to those found in other attempts to predict academic success when children are five years old or younger. Readiness tests and even individual aptitude tests given at this age are relatively inconsistent in their results and their ability to predict is only moderate, although they may be useful in identifying cases of exceptional need.

In the early school grades problems may occur when a child lacks self-confidence and is easily distracted, or is inclined not to persevere in a situation which is unfamiliar and possibly even intimidating. Such characteristics are present in many children in the regular English program and do not ordinarily lead to consideration of a drastic change in program.

The criteria of success in the first year or two of the early-immersion program are difficult to define. They involve a combination of linguistic, social, behavioural, and educational objectives, each of which may interact with the others. Thus a child who, for example, has difficulty in paying attention will have obvious problems in learning French in a classroom situation. The same child will have similar, though perhaps less obvious, problems in an English program. However, there has been a tendency for many such children to be transferred from immersion into English programs. The children would then be identified as immersion failures, although the language of instruction may have had little to do with their problems.

The modern approach to early identification of learning difficulties emphasizes continuous assessment. Teachers in both French-immersion and English programs need to be alert to evidence of possible problems, and parents need to confer with school personnel when they are concerned about their child's progress. A strong argument for continuing contact with children in the primary division by both the French-immersion teacher and a teacher of English language arts is that a problem is likely to be identified earlier, with greater probability of achieving a more balanced approach to its solution.

In any school situation, when a child appears to have problems, discussion should occur as soon as possible among the adults concerned, both at home and at school, and an attempt made to improve the situation. Principals need to be particularly aware of the added pressures on both parents and teachers of a child who is seen as not succeeding in French immersion. The fear that it may have been a mistake to enrol the child may lead to precipitous action on the part of parents, since the option of what might be called a lateral transfer is present. They may, on the other hand, think that a decision to change the program is admitting that the child has failed, and teachers may see a decision to transfer as evidence of failure on their part.

When children are in the regular English program, most problems usually have to be resolved within the classroom. It may in rare cases be possible to change schools or to change teachers, but this is seldom permitted if the child seems merely to dislike the situation. If a change of classroom does occur, it is usually after identifying some special needs of the child. On the other hand, French-immersion teachers do have an opportunity, either in discussion with parents or with other staff members, to suggest the transfer of children they find difficult.

Very little experimentation has taken place in the patterns of French immersion at the preschool and primary levels and the possible variations have not been examined systematically in any research studies. It is time for some attention to be paid to possible program variations, rather than to continue indefinitely in the pattern introduced originally in one school system in response to specific needs of that system. However, changes should be made with caution; it would be equally undesirable to legislate some untried variation for an entire province. A good primary program can be adapted to include immersion, but efforts to develop a well-balanced program with the good qualities of both should continue.

Experimentation should also occur at the high school level. Limited ability to understand instruction given in French and to deal with the concepts being presented can affect success in a course taught in that language. Difficulty in either of these domains will be reflected in students' marks, but without any indication of the source of difficulty. The student who is not above average in academic aptitude may be handicapped further when taking tests in content courses if marks are taken off for errors in writing French or if limited reading comprehension and vocabulary interfere with understanding or responding to the questions on the test. Unfortunately, courses at the general level, with easier content but similar linguistic demands, are not at present available in French in most of the postimmersion programs in Ontario's secondary schools.

Since their inception, immersion programs at the secondary-school and late-elementary levels have not tended to attract many students with average or below-average academic ability. It would be possible to plan more suitable programs for such students than those now generally available. Even university-bound students could benefit from courses taught in French in physical education or family studies in Grades 9 and 10. In physical education, for example, opportunities can be made for student leaders to give directions and to use the imperative in a naturally occurring situation; in family studies there may be many opportunities to develop vocabulary which occurs frequently outside of school but not in most academic subjects. The emphasis in such courses should be on oral communication and skill development rather than on reading and language. Business-oriented programs also could emphasize oral communication and skills in such areas as typing, accountancy, and computer use. In addition, students could be encouraged to take work experience and co-operative education in a bilingual setting. The experience of the larger boards with secondary-level bilingual, postimmersion or extended-French programs could be very helpful to others in developing suitable programs for a much wider range of students than those enrolled at the present time.

VI. PEDAGOGICAL AND ADMINISTRATIVE ISSUES

Synthesis of findings and discussion

Many questions can be raised with respect to pedagogical issues in the French-immersion program. One might ask what curriculum resources are needed for an effective immersion program, or what special methods and teaching styles are appropriate when teaching a subject in a student's second language. Similar questions have been asked in connection with the teaching of English as a second language (ESL), but no attempt has been made in this report to find research in this field whose findings might apply to French immersion. Within the program itself, as in ESL, one can ask, for example, whether the students should learn to read first in their second language, what approaches should be used with children having different levels of ability, or what strategies are most appropriate for correcting students' linguistic errors.

The establishment of French-immersion programs in many school systems across Canada has also led to the identification of numerous administrative problems. Decisions concerning location of classes, selection procedures, transportation and staffing had to be made, often very quickly. Impact on the English program soon became an issue of concern, especially during a time of declining enrolment. Supervisory staff and in-service programs were needed and teacher qualifications, although not specified officially in most jurisdictions, were also matters of concern.

Few of these problems have been addressed in research on the pedagogical and administrative aspects of French immersion in Canada. Journals for second-language teachers often provide suggestions for activities or methods to be used in teaching at various levels, but these suggestions are not usually based on any testable hypotheses. This section of the report will summarize the findings of a limited number of research studies which deal with pedagogical and administrative matters, together with some discussion of the issues. The organization used in the earlier sections of the report was felt to be inappropriate here, since so little research has been devoted to specific questions in this area.

Teaching styles and methods. In one of the infrequent studies involving classroom observation, Gayle (1984) identified four distinct teaching styles among Grade 6 teachers in an intensive French program. It appears that certain teaching styles are more effective than others with specific types of students, such as those whose attitudes or language-learning abilities are higher or lower than average. In another study Chaudron (1977) analysed tape recordings in order to determine how much and in what way students' linguistic errors were corrected in French and other-subject classes. The procedures used by all three of the Grade 8 and 9 teachers involved in the study were consistent with their belief that such errors should not be corrected when teaching other subjects except when they interfered with comprehension. The author suggested a need for more attention to methods of classifying errors and to appropriate strategies for correcting errors.

Bialystok and Fröhlich (1977) have examined the effect of specific strategies of the learner or of teaching methods on reading comprehension at the high school level. It was found that comprehension was increased when the student used certain strategies or aids, such as making inferences about the unfamiliar language and exposure to a brief overview in the first language or to a relevant picture or diagram. In another study (Bialystok and Howard, 1979), it was found to be possible to encourage students' inferencing behaviour through specific classroom training, thereby improving performance on a cloze type of test.

In a recent issue of the Canadian Modern Language Review, Nemni (1985*) discussed how to select and organize vocabulary and how to improve retention of new words, treating the issues from both a theoretical and a practical point of view. In an earlier issue Ludwig (1984*) summarized research on paired-associate learning and applied the principles of learnability to vocabulary acquisition in the second language. Another example of the application of theoretical considerations is found in an article on story-retelling by Allen and Allen (1985*), showing how this activity can be used at various levels to give a real purpose for listening and to aid in developing greater fluency.

Studies of student errors and of communication strategies in the second language have been discussed in the section on French proficiency (see Hamayan and Tucker, 1979, for example). It is important for the teacher to be aware of such studies and of those dealing with topics such as interlanguage and first-language development, since one of the problems of teachers in immersion classes is to maintain an appropriate balance between language instruction and the teaching of subject matter through the second language. It does not seem to be entirely appropriate to teach immersion students in the same way

* Not in annotated bibliography; see additional references for Chapter VI in Appendix A.

as one would teach a given subject to students for whom French is the first language, but research provides little guidance in the realm of methodology or in determining what is usual practice.

An observational study by Ireland and others (1979) indicated that an average of 60 per cent of what the teachers said and 40 per cent of student talk in Grades 1 to 6 were functional, that is, having a primary purpose other than instruction in French. In Kindergarten and to some extent in Grade 1, repetition and other structured activities related to language learning occupied a larger proportion of the time than at later grade levels. Stevens (1984) suggests that activity-centred programs help children develop linguistic skills more than a structured program.

A pilot study developed in conjunction with a graduate course in applied linguistics and the teaching of German provides support for the view that student communication in a second language may be actively discouraged by over-insistence on grammatical accuracy (Holley and King, 1969*). Instructors followed strategies such as avoiding interruption of incorrect responses and modelling a correct response without comment. The teachers praised the learners' communicative accuracy without calling attention to grammatical errors and later provided instruction to the class as a whole with respect to common errors. The authors report that in the televised training sessions there was greater participation and interaction than there had been previously. The study was not carried on far enough to determine when and to what extent the correct forms were acquired, but such a study of the effectiveness of the teaching strategies used would be very desirable.

The issue of teaching reading in two different languages in immersion programs has been examined by some researchers and has been mentioned earlier in this report. McDougall and Bruck (1976) compared the English reading achievement of 20 students at the Grade 3 and 4 levels in English only and in two French-immersion programs with different starting points for reading instruction in the first language. No significant differences among the different groups were found and the investigator concluded that transfer of skills from one code to the other may be accelerated for those who do not start reading instruction until Grade 3. Cziko (1976), in another study of single classes in each of three programs for Anglophones, concluded that neither early nor middle immersion has a detrimental effect on the development of English reading skills. The groups involved in both of these studies were small and no information is given as to relevant characteristics of the samples, such as home background or academic aptitude. The evidence given in these early reports is certainly not sufficient to support a general conclusion as to the best sequence for reading instruction in immersion classes.

In a different type of program, where reading was introduced in both languages concurrently, Game (1979*) compared the academic progress of much larger groups of children (over 800 in a 50/50 program and an unspecified number in a unilingual English program in the same system). The former group had significantly higher scores, but again no information is given about the comparability of the groups.

Curriculum and materials. Curriculum development for immersion has not received much attention in the research literature. In the early days of immersion, teachers were faced with providing a program for which there were no curriculum guidelines and no suitable textbooks for use at the beginning level. Both core French materials and textbooks for Francophones were generally inappropriate, and teachers had to create many of their own materials.

By 1977 OISE had published a survey of curriculum materials used for K-6 in the four boards of education in the Ottawa-Carleton area, with descriptions of the content and purpose as well as evaluative comments (Lapkin and Kamin, 1977*). The Canadian Association of Immersion Teachers published in 1984 the third edition of a list of immersion curriculum materials, with fourteen boards represented (ACPI/CAIT, 1984*).

The Ottawa and Carleton Boards of Education have been pioneers in the development of documents, using somewhat different approaches, and have shared their curriculum materials with others, as can be seen through examination of the publications mentioned in the previous paragraph. Other individuals or publishers have adapted beginning reading materials originally for Francophone children for use in immersion classes. In addition, programs for teaching English language skills to immersion students have been developed in boards such as the Ottawa Board of Education. At the Centre for Second Language Learning of the University of Ottawa a course in reading in the second language is given in conjunction with the Faculty of Education as part of a master's program for second-language teachers.

Fu and Edwards (1984) examined the mathematics achievement of students in French immersion and regular English programs in relation to the extent to which teachers made use of a locally-developed curriculum document. Overall, pupils whose teachers reported greater use of the curriculum document obtained higher posttest scores than those whose teachers reported lower use. However, this relationship was not found when only the French immersion group was considered.

Administrative issues. Whenever administrators or consultants speak about implementing immersion programs, problems of curriculum development and in-service training are mentioned. McGillivray (1984), for example, points out that programs for early immersion had by that time become more readily available. The costs of such implementation are mentioned by McGillivray and others - texts, teaching aids, library books, audiovisual equipment, etc., including both start-up costs and continuing needs for additional resources.

In a study funded by the Ontario Ministry of Education, Partlow (1977*) examined the extra costs incurred when a new second-language program was introduced, as well as ongoing costs. No details are given concerning in-house curriculum development, but this item is included among others as one of the extra costs. MacNab and Unitt (1978*) also deal with the issue in another ministry-funded study related to the costs of alternate programs for teaching French. The report describes and assesses the ways in which curriculum development funds provided by two boards in the Ottawa-Carleton region were used.

Two investigators from the Ontario Institute for Studies in Education (Olson and Burns, 1983; Burns, 1986) present the point of view that immersion education is a complex innovation whose implementation has not been directly studied. In an attempt to examine the nature of implementation problems and practices, questionnaires were directed to samples of parents, principals, and teachers. The reports of the findings, however, provide little assistance to the administrator who is searching for models of successful programs, although the discussion does emphasize the importance of preplanning and of consideration of the linguistic needs of all children.

In an earlier study, carried out in eight northern Ontario boards, Olson and Burns (1982) also emphasize the importance of selection procedures, the relation of immersion to 'political realities' outside the classroom, and issues of planning and implementation within the program. In the eight boards surveyed, it appeared that 75 per cent or more of the 51 immersion teachers had not had any pre-service training related to French immersion and that they were not involved in an ongoing in-service program.

In British Columbia, a survey of administrators, teachers and parents obtained positive responses about the immersion program in the province, which had expanded greatly during the previous ten years (Day and Shapson, 1983). The respondents also provided constructive suggestions for improvement, particularly in the areas of curriculum development, methodology, and in-service training.

When implementation of an immersion program is being considered, administrators can now find examples of several different ways of organizing such a program - early, middle, late, or partial immersion at the elementary level, extended core, secondary 'bilingual' programs, dual-track schools or 'immersion centres'. In many cases the programs serve a group of children with above-average academic ability, whose achievement in English does not appear to suffer and whose French proficiency is far greater than that of comparable groups in the regular English program. The amount of selectivity varies from one system to another; three-quarters of the children in one system enrol in a Grade 4 entry program and most remain for three years. In another system practically all students are in a partial (50/50) program from Kindergarten to Grade 5. Policies regarding admission also vary greatly from one system to another: one system accepts all whose parents want them to enrol, while in another only those identified as being in the top half of their class would be accepted.

There is little or no research evidence or official policy to help administrators decide on a suitable program for a specific school system. Nagy and Klaiman (1986) carried out a study in a moderate-sized board in southern Ontario to help provide a plan of action for the French program, both core and immersion. Various start-up problems were identified, and there seemed to be support both for a strengthened core program and for immersion. Stern (1984*) has prepared an overview of the growth of French as a second language in New Brunswick schools with some proposed solutions for issues raised in that province; these should be of interest in considering the situation in other provinces.

The role of administrators and consultants, including principals in single- and dual-track schools, has not been examined in any detail in the research studies available at the time of writing. The situation varies greatly from one system to another; in one case there may be an immersion program in one school in a system while in another there may be an entire immersion subsystem. In Ottawa in 1986, for example, 15 of the 52 elementary schools have an early-, middle-, or late-immersion program, and there were bilingual programs in 3 of the 14 academic or composite Anglophone high schools. Similarly, consultant staff will vary from a single person who deals with all second-language instruction, including core and immersion French in the elementary school and more than one modern language at the secondary level, to the sizeable resource staff assigned to immersion in systems like those of the Ottawa and Carleton Boards of Education.

Other issues. Many questions which relate to pedagogical issues have been raised, but few of them have been answered in the research on French immersion in Canada. Krashen (1984*) points out that we acquire a language only by receiving comprehensible input, that is, by understanding messages in that language. Immersion programs, according to him, succeed in teaching the second language because the emphasis is on the message rather than the form of what is said. They also provide students with a great deal of comprehensible input, in part because, since all students are at a similar level linguistically, the teacher makes a particular effort to speak to them so that they can understand. He feels that these programs have taught us that comprehensible subject-matter teaching in the second language is language teaching.

Krashen holds the view that the goal of the language class is to bring the student to the point where the language can be used outside the classroom in understanding and communicating with native speakers. Acquisition of the language will then continue as the learners interact with and receive comprehensible input from native speakers. Although there is less emphasis on form in the immersion approach than in conventional language teaching, it seems clear that grammatical correctness contributes to comprehensibility, and that a reasonable balance between the emphasis on communication and on correctness must be maintained.

Although Lambert and Tucker (1972) have suggested that facility in a second language should lead to cognitive benefits, there is little firm evidence to support this notion. Cummins (1979*) has put forward hypotheses to support his view that a cognitively beneficial form of bilingualism must be based on adequately developed first-language skills. His 'developmental interdependence hypothesis' proposes that the level of second-language competence attained is partly a function of the type of competence already developed in the first language at the time of intensive exposure to the second language. Since most middle-class children in French-immersion programs have strong support in their out-of-school environment for linguistic development in English, this fact can account for the lack of detrimental effect in the early grades of intensive exposure to French with little formal instruction in English language skills. Cummins points out that a major weakness in research on bilingualism has been the lack of emphasis on the child's interaction with his educational environment. The issue of the relationship between language and thought also has important implications for teaching strategies in immersion programs.

Tardif (1985*) points out that teaching in immersion is different from teaching core French or teaching subject matter in the first language. Teachers need to know how to integrate second-language learning with learning in various content areas. She also emphasizes the need for understanding of factors which affect the process of language acquisition and the principles of educational psychology which relate to the immersion context. In an overview of methods in language teaching, Yalden (1979*) says that what is different about immersion, as compared with Berlitz and other 'direct method' approaches, is the relatively small amount of attention given to teaching the language as a subject and the greater emphasis on teaching through the language and having learners develop as quickly as possible the ability to communicate effectively.

By 1983 over a third of the faculties of education in Canada were offering one or more specialized courses for immersion teachers (Obadia, 1984). However, the program at Simon Fraser University appears to be unique in its provision of twelve months of professional training for teachers of French as a second language, both immersion and core (see Table 4 in Appendix B). There is need for both systematic presentation of theory and method in an immersion context and for co-operative production and dissemination of learning materials.

Concluding statement. The issues of teacher education, curriculum development, and administrative policies in particular now need attention in relation to further developments in second-language education. Improvements can still be made in immersion programs, particularly with respect to handling individual differences and to increasing speaking proficiency. In her comment on Stern's article in Interchange (1984*, 1986*; see also Tables 5 and 6 in Appendix B), Harley points out that the immersion phenomenon offers a valuable opportunity to investigate a number of important second-language issues. This is both because of the emphasis on the communicative use of French in the immersion program and because the students' exposure to the second language is largely restricted to the classroom. Cooperative efforts on the part of second-language teachers in different types of programs should lead to the improvement of teaching in all of them.

SUMMARY

I. ATTITUDES AND MOTIVATION

Q1. How do immersion students differ from other students in their attitudes toward second-language learning?

Although the attitudinal and motivational aspects of language learning are known to be important, the immersion phenomenon has not led to new insights in this area. Students who enrol in immersion tend to have more positive attitudes than those in core programs and to be well motivated, so that there is relatively little scope for improvement. Some evidence of change of attitude in a positive direction and of the effect of parental attitudes has been noted. Differences in attitude between immersion students and those in core programs have also been found.

Q2. What reasons do parents and students give for deciding to enrol in immersion programs?

Learning French in order to improve later job opportunities is the first reason usually given by both parents and students for enrolling in immersion. However, the educational and cultural values of learning a second language are also mentioned frequently by both groups.

II. ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS

Q1. What effect do the immersion programs have on the child's basic skills in English language arts?

Usually the early-immersion students performed as well as students of similar ability on the many different kinds of tests used. However, there was often a delay in reaching the same level as students in the English program on tests of reading in the primary grades and on some other tests, especially in spelling. In late-immersion groups, evidence of delay was seldom found.

Q2. Does early immersion affect the general progress of students taught in French?

At the elementary level, immersion students typically did as well as comparison groups of similar ability on the standardized tests used to examine learning in mathematics and content areas. However, there was evidence in one partial-immersion (50/50) program that students' performance was less satisfactory when higher skill levels were needed.

Q3. Do high school students learn as much in courses taken in French as they would if they had taken the same subjects in English?

In most of the limited number of studies at the high school level there was no evidence of differences in achievement which were related to the language of instruction. However, students appeared to feel that their marks were often lower in subjects taken in French. In one study the students' lower level of reading comprehension in French appeared to affect their scores on an objective test in history.

Q4. What cognitive benefits will facility in a second language bring to the learner?

It has been suggested that knowledge of a second language should enhance a child's intellectual development, but definitive research is lacking in this area. Earlier studies of bilingual children had reported that they performed less well in school than unilingual children, but most of these studies failed to take account of other relevant factors such as socio-economic status.

III. FRENCH PROFICIENCY

Q1. How does the French proficiency of early-immersion students compare with that of students in other groups?

Late immersion. Overall the research to date indicates that early-immersion students continue to have higher French proficiency skills than late-immersion students to the end of secondary school. At the higher levels, differences are more likely to be found on speaking tests than on measures of receptive skills.

Middle immersion. There is as yet little information about middle or partial (50/50) immersion students who have completed a program to the end of the elementary or high school grades. It seems reasonable to expect their French proficiency to be intermediate between that of early- and late-immersion students.

Other groups. Most data suggest that, as would be expected, the French language skills of immersion students are below those of comparable groups of Francophone students, especially in speaking and writing. However, their skills compare favourably with those of Anglophone candidates for positions classified as bilingual in the public service.

Q2. How well do students retain their French language skills after they leave the immersion program?

A minimal amount of continued French input seems to be needed if students are to maintain their French proficiency. Those who make use of French appear to continue to improve, but there is little evidence to help identify the best secondary program for former late- or early-immersion students.

Q3. What kinds of mistakes do immersion students make in speaking and writing?

In the early years of the immersion program the students' spoken French appears to improve rapidly. Later they tend to make more errors than Francophones of the same age and to use many anglicisms. Many of their errors in speaking and writing persist to the end of the secondary school grades. Immersion students seem to develop a form of 'interlanguage' in which some aspects of standard French do not appear, including certain verb forms.

Q4. Is there an optimal age for starting second-language instruction?

There is no simple answer. Both an early start and a delay until the middle or later years of elementary school have their advantages. Parents need to consider the question carefully and try to make the best decision they can as to the most suitable choice for the particular needs of their child.

Q5. Can immersion students communicate effectively in French in out-of-school situations?

Although immersion students have communicative competence far beyond that achieved by students in the usual French-as-a-second-language programs in the past, their proficiency in speaking is relatively low in comparison with their ability to understand French and to read it. In particular, the limitations of the classroom environment do not allow the students to perform like native speakers of the language in social situations.

IV. CULTURAL KNOWLEDGE AND LANGUAGE USE

Q1. To what extent do French-immersion students use the language outside the classroom?

Even though students in places like Montreal and Ottawa have more opportunities for contact with the French-speaking community, it appears that few immersion students in any part of Canada use French very much outside the classroom. As they get older, a considerable proportion find a use for French in part-time and full-time jobs, particularly in those where they deal with the public.

Q2. How do immersion students differ from others in their knowledge of French-Canadian culture?

In the typical immersion classroom at any grade level students have direct contact with French-speaking persons only through their teachers and occasional field trips. A small proportion of them report increased knowledge of French-Canadian culture through literature courses and through bilingual exchanges.

V. PREDICTORS OF SUCCESS AND TRANSFER PROCEDURES

Q1. How well can success in French immersion be predicted?

At the secondary level and in the later elementary grades, measures of proficiency in French tend to be the best predictors of later achievement in that subject. At the grade 10 level English-language measures of aptitude have been found to account for about 25 per cent of the variability in French proficiency. At the Senior Kindergarten level, many predictors have also been found to predict French proficiency at the end of Grade 1, but no test battery so far proposed seems to provide sufficient information on which to base a decision as to whether a specific five-year-old child should enrol in immersion.

Q2. Should a child who is below average or language-disabled be permitted to enrol in French immersion?

There is considerable evidence to show that children with lower than average academic ability or with some degree of language impairment can be as successful in French-immersion programs as in the usual English program. In addition, there does not seem to be a close relationship between measures of academic ability and proficiency in speaking the second language. Emphasis should be placed, however, on adapting the program to suit children with differing needs.

Q3. What are the characteristics of students who transfer out of French immersion?

Students transfer out of immersion for a wide variety of reasons, but identifiable learning disability is seldom a factor. These students tend to be of higher ability than the low-achieving students in either English or French programs. Children who transfer in the early grades usually have a period of adjustment during which they need special assistance, but parents report that after this period most children adjust well to the change. There is little information about the characteristics of students who transfer at the upper elementary or secondary levels.

Q4. What are the reasons why children transfer out of immersion programs?

Reasons for transfer given by parents of younger children range from academic difficulties and lack of remedial help to behaviour problems and transportation difficulties. At the time of the transition to the secondary level students are concerned about getting lower marks in subjects taught in French and limitations in the choice of courses. In most cases, the decision to transfer is influenced by a combination of factors.

VI. PEDAGOGICAL AND ADMINISTRATIVE ISSUES

Synthesis of findings

Since little research has been addressed to specific questions related to pedagogical and administrative matters, this section of the report discusses the issues with respect to teaching styles and methods, curriculum and materials, administrative and other issues, and refers to specific research studies in the discussion. Some of the identified needs in this area are programs designed for a wider population, with courses prepared to help students for specific goals; better preparation for teachers; and administrative practices which will help improve all programs for teaching French as a second language throughout the province.

RECOMMENDATIONS

Having reviewed this body of literature, the authors wish to offer the following comments and recommendations as their considered opinion. As indicated in the body of this report, much of the research on immersion has been prompted by concerns expressed by parents and trustees, teachers and administrators - about what harm, if any, will be done by this approach, and about how 'bilingual' the students will become. As a result, the research has tended to emphasize two areas:

(1) comparisons of French-immersion students with those in regular English programs, with the purpose of determining whether being in immersion has any detrimental effects on the students' achievement in English language arts and in subjects taught in French;

(2) comparisons of the French proficiency of students in different types of immersion programs and of these students with that of other groups, including those in core programs and sometimes Francophone students.

Other interesting questions have been asked - about relationships between attitudes and learning, about thresholds and interdependence, about strategies used in communication, and about effective teaching methods.

However, no systematic effort to study immersion as a global phenomenon has been made and many of the studies have looked at relatively limited aspects of the program. There is also a need for theoretically-oriented studies which might be carried out by university-based researchers such as linguists and developmental psychologists. It has not been the usual role of a Ministry of Education to promote such studies. However, there is still much to be learned, and this review shows several important areas in which more work is needed.

There continues to be a need for support of both pure and applied research on matters related to immersion education:

(1) More emphasis should be placed on test development, not only to provide better instruments than are now available for use in research studies and for program evaluation, but also to provide means for helping teachers improve instruction.

(2) More case studies and classroom observation should help to identify successful methods used by teachers and factors which influence learning for individual students.

(3) Preliminary studies on the efficacy of remedial and special education services in immersion are needed. At present we do not know the extent to which such services would benefit students in immersion programs, nor the extent to which the possible benefits would transfer to students' first language activities.

(4) Greater co-operation between groups involved in English-as-a-second language programs and those in French immersion might help to identify common elements and benefit both programs, even though some of the needs of students in these two types of programs may differ.

(5) Support of university-based studies in disciplines such as linguistics and psychology which focus on principles of effective second-language learning might lead to the development of improved curricula and methodology.

In addition, attention needs to be paid to teacher education and curriculum development:

Teacher education. An innovative program has been introduced and a great deal of progress has been made in the last 15 or 20 years. It is time to consolidate what has been learned and to apply this toward improving teacher preparation. Requirements for teaching a second language (both English and French) need to be re-examined and efforts made to provide both in-service and pre-service education programs which include attention to relevant psychological, pedagogical, and linguistic theories, as well as to methods of teaching in different types of second-language programs and at different age levels.

Curriculum and programs. Consideration needs to be given to expanding or diversifying immersion and other French-as-a-second-language programs to include a variety of entry points and sequences designed for a wider population, including students in general-level courses. Courses intended to attain such specific goals as cultural knowledge, practical language use, business-oriented experiences, and correctness in written and spoken French should be developed. Teachers and school systems, as well as parents, should be encouraged to help students make use of local opportunities to increase exposure to French and to participate in various types of exchange programs, not only those which involve expensive travel and preparation time.

A great deal of progress has been made as immersion programs have expanded in Ontario and other parts of Canada during the past 15 or 20 years. Perhaps now is the time to examine some of the principles and procedures which were accepted uncritically in the early days and to make use of accumulated experience and research findings to improve second-language programs.

APPENDIX A

ANNOTATED BIBLIOGRAPHIES

I. ATTITUDES AND MOTIVATION

Annotated Bibliography

BIENVENUE, R. "French Immersion Programs: A Comparison of Immersion and Non-Immersion Parents". *Canadian Modern Language Review* 42 (March 1986), pp. 806-813.

A questionnaire was distributed to a total group of 531 parents of children in Winnipeg schools at the primary level in French immersion (FI) and of those in the regular English program, (with a 40 per cent response rate). Non-immersion parents questioned the viability of the immersion program; only half of them thought that FI programs could produce truly bilingual children and the same proportion believed that English language development suffered. Non-immersion parents also indicated a greater preference for neighbourhood schools and for core French programs.

BONYUN, R. *Grade 12 and 13 Student Surveys, Spring 1984*. Working Paper 160. Ottawa: Ottawa Board of Education Research Centre, 1985.

Just over 400 bilingual-program students from Grades 12 and 13 in the Ottawa and Carleton school boards responded to the questionnaire survey, representing 65 to 80 per cent of the four groups. These students tended to rate themselves higher on comprehension of spoken or written French than on writing or speaking the language. There appeared to be little difference between the ways the early- and late-entry groups felt about their French proficiency. The French literature courses were described as particularly good, while more emphasis on the spoken language, better teachers, and wider course choice were suggested improvements. Most indicated that they expected the French language to play some role in their lives, such as improved job opportunities. Most expected to complete Grade 13 and proceed to postsecondary education, affirming an academically-oriented group.

BONYUN, R. *The Ottawa High School Bilingual Program: Views of Two Groups of Graduates*. Working Paper 147. Ottawa: Ottawa Board of Education Research Centre, 1983.

In the spring of 1982 about 65 per cent of the 270 former Ottawa bilingual-program students who had been registered in a French language course in Grade 12 two or three years earlier replied to a questionnaire asking for their opinions about the program they had followed and what they had done since leaving school. The students had entered a bilingual program in one of the grades from 6 to 9 and about 90 per cent of the target groups had completed Grade 13 and obtained the Ottawa Board's Bilingual Certificate (13 credits in French). Most (80 per cent) were attending university or college in 1982 and felt confident of their ability to use French, although less than half had taken some French at the postsecondary level. These graduates appear to have met few serious difficulties as a result of their high school program and to feel that they had gained a skill that was both useful and personally rewarding.

BURNS, G. "French Immersion Implementation in Ontario: Some Theoretical, Policy and Applied Issues". Canadian Modern Language Review 42 (January 1986), pp. 572-591.

This article presents the point of view that immersion education is a complex innovation whose implementation has not been directly studied and questions the relevance of achievement data in measuring the effectiveness of this innovation. It discusses a study which examined the extent to which inequality exists in immersion and the nature of implementation problems and practices. Questionnaires were directed to parents, immersion teachers and other teachers in the same schools, principals and teachers in schools not having immersion, consultants to immersion programs and Francophone teachers and principals. Response rates for the different sets of questionnaires ranged from a high of 100 per cent in 7 of the 34 responding boards (out of 49 offering immersion programs) to 40 per cent in one system, while some additional boards completed only the consultant's questionnaire. No indication of the representativeness of the respondent group is given and no details of the reponses are provided in the article.

The discussion suggests that the findings indicate that immersion in Ontario tends to be social-class biased as a result of public policies which favour entry to and success in the program among children who are initially more privileged. The responses are also said to indicate that most immersion programs are adopted on an ad hoc basis and in reaction to strong political lobbies, rather than on the basis of clear understanding of the characteristics and the implications of such programs. The article concludes with emphasis on the need to offer programs suited to the needs of all children who enrol and to provide support to local boards with respect to both curriculum guidelines and in-service education.

COLLETTA, S., and others. Community and Parental Influence: Effects on Student Motivation and French Second Language Proficiency. Quebec: Laval University International Centre for Research on Bilingualism, 1983.
EJ198200

The effects of parental influence on second-language learning were examined, using data obtained from 68 Anglophone students enrolled in Grades 7 to 10 of a French-immersion program. The results indicated that parental influence can be divided into passive and active components, with the passive component being the early development of language learning attitudes and the active component being the continued effort to influence attitudes. Significant relationships were found to exist between active parental influence and both student confidence with French and socio-economic status.

CZIKO, G.; Lambert, W.; and Gutter, J. French Immersion Programs and Students' Social Attitudes: A Multidimensional Investigation. Working Papers on Bilingualism 19 (1979), pp. 13-28. Toronto: Ontario Institute for Studies in Education.

Children in Grades 5 and 6 in the Montreal area were asked to compare pairs of descriptive terms (e.g. bilingual English-Canadians, French people from France, Americans, etc.) as to the degree of dissimilarity. A process known as multi-dimensional scaling (MDS) was used to analyse the results for groups of early and late French-immersion students and for English-speaking and French-speaking control groups. The MDS procedure appeared to be a useful method for investigating attitudes of children at these grade levels and the results suggested that the early immersion experience seemed to have reduced the social distance between self and French-Canadians. This seems to have been an isolated study without extensive follow-up.

DAY, E. "A Study of a Bilingual Exchange Program for Immersion Students". Contact 1 (1982), pp. 8-9.

The exchange program involved 60 Grade 7 students from British Columbia and an equal number of Grade 7 students from Quebec. The students exchanged personal letters with their twins and in British Columbia there was a series of presentations and activities on various aspects of French-Canadian culture before the 12-day visit to Quebec. The students completed two questionnaires intended to measure attitudes toward and knowledge of French-Canadian culture before the program; posttesting was done for half the group after the cultural lecture component and for the other half after the trip to Quebec.

The students tested at the end of the pretrip activities showed significant gains in knowledge of French-Canadian culture, while those tested after the trip showed similar gains and also demonstrated significantly more positive attitudes toward French-speaking Canadians than they had on the pretest.

GENESEE, F. Second Language Learning and Language Attitudes. Working Papers on Bilingualism 16 (1978a), pp. 19-42. Toronto: Ontario Institute for Studies in Education.
ED165475

A questionnaire intended to ascertain students' feelings about using French, their actual use of the language outside of schools, their motivations for learning French, and their perceptions of their own competence in it was given to 65 Grade 6 students and 86 Grade 11 students in immersion classes and to control groups of comparable size and ability.

Results indicated that the immersion students felt more at ease about speaking French and assessed themselves as more competent than those in the control groups; they were also generally satisfied with the program. However, there was no indication that immersion students sought opportunities to express themselves in French.

KAUFMAN, D., and Shapson, S. "Overview of Secondary and Post-secondary French Immersion: Issues and Research". Canadian Modern Language Review 34 (February 1978), pp. 604-620.

This describes studies of three immersion programs: a late immersion (Grade 10 including two weeks in a French-Canadian milieu); a pilot summer late-immersion program for secondary students (4-6 weeks in second-language/cultural milieu) and a Summer Language Bursary Program (6 weeks in an accredited institution, living in residence or a private home).

Findings are given only for the late-immersion study. Proficiency in basic verbal skills in French increased significantly during the experimental program; students out-performed their peers in the conventional Grade 10 French program and performed as well as Grade 12 students completing the conventional French program. The oral proficiency French skills increased during the two-week experience. Students' attitudes toward French-speaking people were more positive and showed higher integrative orientation toward studying French than those in conventional French. Students expressed very positive opinions about the late-immersion program and felt confident about the French they had learned.

KIRKWOOD, K.; Both, S.; Campana, M.; Fine, J.; Long, M.; Pierorazio, H.; and Rogers-Shermet, J. An Overview of French Immersion in Peel. Mississauga, Ontario: Peel Board of Education Research Unit, 1986.

A survey of principals of 14 schools with French immersion (FI), of parents of FI students (N=278), and of Grade 6 students in late and early FI programs (N=136) was undertaken. The average annual attrition rate for all grades for the period between 1978 and 1985 was 4.2 per cent, with the highest occurring in Grade 2 and during the fall months; 3.5 per cent were identified as exceptional (80 per cent of these as gifted and 16 per cent as having specific learning disabilities). The enrolment in FI had increased significantly each year of operation and to date one half of the original (1978) cohort remained in the program. Very few children had participated in bilingual exchange visits or lived in a French environment, but more than half of the parents felt that such experiences would be desirable. Improvement of job opportunities was seen by both parents and children as an important reason for becoming bilingual.

LAMBERT, W., and Tucker, G. Bilingual Education of Children: the St. Lambert Experiment. Rowley, Mass.: Newbury House Publishers, 1972.

This book describes the evaluation of the pilot class in the well-known St. Lambert immersion program. At the end of a five-year period there appeared to be no retardation in native language or cognitive development or in subject-matter achievement among the immersion students. Although the experimental group could not be classified as 'balanced' in their bilingual competence, it was felt that such a goal was achievable for these students. However, the writer said it was unreasonable to expect that the school program alone could provide sufficiently varied conditions for the development of balanced expressive fluency. There was some evidence that children in the immersion classes were less ethnocentric in their attitudes than those in the English control group and that they had developed confidence in their second-language ability. The importance of parental support was also emphasized.

MARTIN, J. C. Goals of Education: Some Comparisons of Parents' Education and School Differences. Research Report 72-10. Ottawa: Ottawa Board of Education Research Centre, 1972.

About 1000 fathers of students in 15 Ottawa elementary schools responded to a questionnaire in June 1972. In families where the father had a second university degree, 58 per cent of Kindergarten and Grade 1 children were in French immersion (FI), while 19 per cent of those with less than high school graduation had enrolled their children in FI. Regardless of educational level, the fathers ranked as the most important educational goals for their children the development of interest in and enthusiasm for learning, a feeling of self-worth and opportunities for physical development. The parents with more education gave more importance to the development of academic skills at the primary level, while those with less education placed relatively higher emphasis on values such as honesty and courtesy and on respect for authority.

OLSON, C., and Burns, G. "Immersed for Change: Politics and Planning in French Immersion". Les Nouvelles de l'ACPI/CAIT News 5 (June 1982), pp. 12-16.

The researchers undertook a study of social and implementation factors related to French immersion (FI) in eight northern Ontario boards. Details are given concerning parental response to questions about reasons for enrolling their child in the program (number of respondents and response rate not given); reasons given by over 80 per cent included the hope of better access to jobs and belief that mastery of a second language is an important part of education. A similar proportion felt that French immersion is the best way for English-speaking children to become truly bilingual, while 57 per cent agreed with the statement that FI aids in bringing the French and the English together.

Some data obtained in one board indicated that the IQ levels of French-immersion classes tended to increase with grade level (N=14 in the lead class at the Grade 5 level), while teachers (N not given) in the study generally denied that they tracked out children for behaviour problems or because they were slow learners. Implications of the selective nature of the program are discussed at some length, along with the reactions of the Anglophone teachers and a sample of Francophones who participated in the questionnaire study.

SAVIGNON, S. "On the Other Side of the Desk: A Look at Teacher Attitude and Motivation in Second Language Learning". Canadian Modern Language Review 32 (February 1976), pp. 295-302.

The author emphasizes the importance of attitudinal variables in language learning, including attitudes and motivations of teachers, both individually and as a profession. The model suggested is the Community Language Learning Model, where the teacher is a resource person who helps class members say whatever it is they want to say, free from tension, judgement and criticism. The author cautions that language teachers and teacher trainers may perceive current trends to de-emphasize grammar as a threat to their own professional identities and therefore be unlikely to encourage teaching strategies involving creativity and spontaneity. The article presents the Foreign Language Attitude Survey, developed by the writer, as a useful tool in exploring attitudes and motivations of teachers themselves, and of teachers in relation to other teachers, to their students and to the language they teach.

SHAPSON, S., and Day, E. "A Longitudinal Evaluation of an Early Immersion Program in British Columbia". Journal of Multilingual Development 3 (1982a), pp. 1-16.

The results of this study of two cohorts of students from Kindergarten to Grade 6 are consistent with those of many other studies of immersion programs with respect to achievement in English and French. A measure of attitudes showed that the immersion students tended to have more positive attitudes toward French language and culture than core French students tested in the B.C. French Study.

Additional References

EDWARDS, H. "Psychological and Social Psychological Factors Influencing Second-language Acquisition". Canadian Modern Language Review 36 (March 1980), pp. 481-484.

GARDNER, R., and Lambert, W. Attitudes and Motivation in Second-language Learning. Rowley, Mass.: Newbury House Publishers, 1972.

HAMERS J., and Deshaies, D. Intercultural Exchanges in a School Setting...Attitudes, Motivation and Cultural Identity. In Exchanges..Assessing their Value. A Summary of the 1983 Annual Conference of Society for Educational Visits and Exchanges in Canada. Ottawa: SEVEC, 1461 Heron Road, 1984, pp. 29-33.

II. ACHIEVEMENT IN ENGLISH LANGUAGE ARTS AND OTHER SUBJECTS

Annotated Bibliography

ANDREW, C; Lapkin, S.; and Swain, M. Report on the 1979 Evaluation of the Ottawa and Carleton Early Immersion Programs, Grades 6 and 8. Toronto: Ontario Institute for Studies in Education, 1980.

The students tested at the Grade 6 and Grade 8 level were a few representative classes of those in the first and third cohorts enrolled in early-immersion programs in the Ottawa and Carleton Boards of Education, together with a similar number of classes in the regular program. The first three cohorts had previously been tested annually, beginning with their Kindergarten year. The report contains a summary of differences between immersion and English-program students over the nine-year period, and the effects of the language of instruction on mathematics and science are also examined. Scores were adjusted for IQ in 1979 and for age and IQ in earlier years.

On standardized tests of English language skills and work-study skills, the immersion students in Grades 4 through 8 continued to perform as well as or better than the groups in the regular program. In science and mathematics the immersion students studying the subject in French tended to perform as well as those whose instruction was in English.

BARIK, H., and Swain M. "Evaluation of a French Immersion Program: The Ottawa Study through Grade Five". Canadian Journal of Behavioural Science 10 (July 1978), pp. 192-201.

The results of the evaluation of the French immersion program for three cohorts of students in Grades 3 to 5 of the Ottawa public school system indicate that pupils in the program are in general on a par with or ahead of their peers in the regular English program in most academic areas considered (English, mathematics, work-study skills, science) and are performing satisfactorily in French. The sample was restricted to four representative classes at each grade level, together with classes (comparable as to socio-economic status) from the regular English program. The findings were consistent with those of other evaluations.

[SEE Andrew, Lapkin, and Swain, 1980 for a report on Grades 6 to 8.]

BARIK, H., and Swain, M. "A Longitudinal Study of Bilingual and Cognitive Development". International Journal of Psychology 11 no. 4 (1976), pp. 251-263.

[SEE also report of same title published by Ontario Institute for Studies in Education (1976).]
ON02570

The sample consisted of three cohorts of students who started Kindergarten in successive years; the total group consisted of 52 French-immersion (FI) students and 16 students in the regular English program in Ottawa. Data were collected from 1971 to 1976. IQ scores showed a significant difference over the five-year period favouring FI, but during this period there was no increase or decrease in the IQ of either group in relation to the other. After adjustment for initial IQ and age differences, the high achievers in French had significantly higher IQ and subtest scores than low achievers. The findings are discussed in relation to Cummins's (1976) 'threshold' hypothesis.

BARIK, H.; Swain, M.; and Gaudino, V. "A Canadian Experiment in Bilingual Schooling in the Senior Grades: The Peel Study Through Grade 10". International Review of Applied Psychology 25, no. 2 (1976), pp. 99-113.

A bilingual program in Brampton involved the use of French as the medium of instruction for 70 per cent of the curriculum in Grade 8 and 40 per cent in Grades 9 and 10. Successive cohorts of two classes each were considered in relation to a matched group in the regular English program. By the end of Grade 9 students in the bilingual program had a much higher level of French achievement and did as well with respect to achievement in English and in other subjects. Both groups showed the same degree of positive attitude toward the French language, culture, and people.

The results obtained in Grade 10 were consistent with those obtained in the two previous years. The bilingual group at this level also did better in French than a selected group of students from Grades 12 and 13.

BARIK, H.; Swain, M.; and Nwanunobi, E. "English-French Bilingual Education: The Elgin Study Through Grade Five". Canadian Modern Language Review 33 (March 1977), pp. 459-475.

The report summarizes the evaluation of the 50/50 program in Grades 1 to 5. Replication occurred as various cohorts moved through the program, with 15 to 20 students at each level in 1974-75. A control group from the English program was also tested, and data were adjusted for age and IQ.

The children in the English program obtained higher scores on most tests of English reading and language at the Grade 3 level, but such differences occurred in only one of the three groups tested in Grades 4 and 5. Some differences were found in mathematics, but less consistently. Comparisons were also made with results of French proficiency tests used elsewhere, but the inconsistent results are difficult to interpret.

BRYCE, D. Grade Three Evaluation of the French Immersion Program. Waterloo: The Waterloo County Board of Education, 1980.

A random sample of 33 per cent of the French immersion students in Grade 3 in a 50/50 program and a control group matched by sex, age, and occupation of parents were tested in mathematics, environmental studies, English, and French as a second language, using both locally designed and standardized tests. In all of the areas of testing there was no significant difference in achievement between the experimental and the control groups.

CUMMINS, J. "Should the Child who is Experiencing Difficulties in Early Immersion be Switched to the Regular English Program? A Reinterpretation of Trites' Data". Canadian Modern Language Review 36 (October 1979), pp. 139-143.

This article examines the statistical analysis presented by Trites and Price (1978) and contends that the data in this cross-validation study suggest that students who transferred to an English program fell further behind in English reading skills than those who remained in immersion in spite of difficulties. He also points out that some of the analyses failed to take into account the fact that some of the children who transferred were placed at a lower level than would be expected on the basis of their ages. He emphasizes, however, that in cases where children encounter difficulty in French immersion, each individual case must be judged on its merits.

In his reply, Trites does not mention specifically the issue of grade placement, but he disagrees with Cummins's claims that he over-interpreted non-significant differences, failed to take account of regression to the mean, and used percentile ranks in reporting gain scores.

CZIKO, G. "The Effects of Language Sequencing on the Development of Bilingual Reading Skills". Canadian Modern Language Review 32 (May 1976), pp. 534-539.

English and French reading skills were compared for groups of children at the Grade 4 level who had followed a French-immersion program since Kindergarten and another group who had begun an immersion program at the Grade 4 level. The English test was a widely used standardized test of reading comprehension while the test of French reading ability was adapted from one originally developed for Grade 7 French-as-a-second-language students. The groups were equated in terms of age and class size; two control groups were used, one from the English program and one group for whom all schooling had been in French.

The group which started immersion in Grade 4 did as well on the French reading test as the early-immersion group, although it had had only one year of French reading instruction. In addition the former early-immersion students did not differ significantly from the Francophones on the French reading test. Moreover, neither the early nor the later (Grade 4) French program had detrimental effects on the development of English reading skills. The researcher concluded that neither program is clearly superior in fostering bilingual reading skills and feels that further research is needed to isolate the effects of the sequencing and timing of second-language reading instruction.

EDWARDS, H. "Evaluation of the French Immersion Program Offered by the Ottawa Roman Catholic Separate School Board". Canadian Modern Language Review 33 (November 1976), pp. 137-150. EJ150321.

Two immersion programs are evaluated: one from Kindergarten to the end of Grade 5 (50 per cent French in Kindergarten and Grades 4 and 5; only religion in Grade 1, and language arts in Grades 2 and 3 in English) and a one-year program in Grade 7. These are compared with core or extended French at the same grade levels. With respect to group averages, the English language achievement of students in all programs has been similar, as measured by standardized tests. Group results on three measures used to investigate the possibility of learning difficulties showed no evidence of any greater tendency for the immersion children toward such difficulties at any grade level. Measures used to assess language skills in French showed a large and statistically significant difference in favour of the immersion group. By Grade 5 the immersion children can communicate without difficulty in the French language, but the author warns that the children should not be considered to be 'perfectly bilingual'.

Comments of guest analysts (Carroll, Burstall, Rivers) Dr. Carroll asked for an explanation of the considerable variation among individual classes and whether results were available for immersion classes explicitly identified as being of low SES. He pointed out that the best interpretation for the immersion success is that the language is being used instrumentally or in a truly communicative situation, and agreed that any lag is small and temporary, so that one is getting "two languages for the price of one".

Dr. Burstall also pointed out that the immersion groups tend to consist of middle-class children, with supportive parents, and asked whether the programs would have similar effects if they were extended to children of a wider range of age, ability, and SES. She suggested that, in view of evidence concerning the superior efficiency of the older learner, a systematic investigation should be made of alternative programs in the post-primary years.

Dr. Rivers wondered about the report that teachers preferred "a formal concept of language learning with increased stress on traditional methods rather than on the audio-lingual approach". She felt that there was an urgent need to think rather deeply about what constitutes an appropriate teaching approach in the early grades for developing communicative skill.

Dr. Edwards said that he believes that we can conclude that early immersion is a viable option which provides a functional use of the second language and which also appears to be fully compatible with the elementary curriculum objectives for at least a majority of the children. He stated that the issue of what aspects of subject matter are to be introduced early and which should be delayed does not appear to have a clear answer as yet.

EDWARDS, H.; Colletta, S.; and McCarrey, H. Evaluation of the Federally and Provincially Funded Extensions of the Second Language Programs in the Schools of the Ottawa Roman Catholic Separate School Board (ORCSSB). Annual Report, 1978-79. Ottawa: University of Ottawa, 1980.
ON01844

Students from immersion (N=99) and extended-core (N=212) classes at the Grade 8 level in Ottawa separate schools were tested, together with a sample from French-language schools. Previous studies of the two French-as-a-second-language classes are summarized.

The measured French proficiency of the early-immersion subjects surpassed that of the extended-core group but was less than that of the Francophone group. Views of parents and teachers suggested a need for revision of the extended-core program. Case studies of a sample of 12 students with varying degrees of success in immersion suggested that factors such as reading habits, ability to concentrate, and study skills may affect student success in the program.

FU, L., and Edwards, H. Mathematics Achievement of English Program and French Immersion Pupils in Grades 3, 6, and 9. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, April 1984.
ON03078 ED243706

This study examined the mathematics achievement of English-speaking Grade 3 pupils in early French immersion and regular English programs, taking account of the language of instruction and the extent to which teachers reported use of a locally-developed curriculum document. General ability and mathematics pretest scores were used as covariates. French and English versions of locally-developed objectives-based mathematics tests were administered in October and May of the 1981-82 school year.

There were no significant differences between the mathematics posttest scores of the French-immersion and English groups. Overall, pupils whose teachers reported greater use of the curriculum document obtained higher posttest scores than those whose teachers reported lower use. However, this relationship was not found when only the French immersion group was considered.

GENESEE, F. "A Longitudinal Evaluation of an Early Immersion School Program". Canadian Journal of Education 3, no. 4 (1978b), pp. 31-50.
EJ204119

Grade 6 French-immersion students in Montreal were compared to an English control group of similar ability and to a French control group. The immersion students' English skills were equal to those of regular English students; they had also developed considerable competence in French, although their skills were not native-like.

Relative to comparable students in the regular English program, below average students in immersion are able to achieve comparable levels of competence in their first language, as did those who were average or above average. The author concluded that there was no indication that academic achievement was impaired as a result of participation in the immersion program.

GENESEE, F., and Lambert, W. "Trilingual Education for Majority-Language Children". Child Development 54 (February 1983), pp. 105-114.
EJ284319

The purpose of this research was to evaluate the effectiveness of double-immersion (DI) programs in which English-speaking children received curriculum instruction in two second languages (Hebrew and French) before receiving or along with first-language instruction. It was found that the French second-language proficiency of Grade 5 DI students was as good as that of comparable students in single-immersion programs in French only and better than that of non-immersion students with conventional French-as-a-second-language instruction. In contrast to other research showing that adolescents and adults learn second languages faster than children, students participating in DI programs with delayed intensive exposure to French tended to be less proficient than students in single- or double-immersion programs with early intensive exposure to French. The delayed DI students also tended to perform more poorly in Hebrew. None of the DI groups showed deficits in first-language development or academic achievement. It is concluded that DI, especially if begun early, can be an effective means for English-speaking children to acquire functional proficiency in two non-native languages and that instruction in the first language in the beginning of the program has no long-term benefits to first-language development but may slow down second-language learning.

GENESEE, F., and Stanley, M. "The Development of English Writing Skills in French Immersion Programs". Canadian Journal of Education 1, no. 3 (1976), pp. 1-17.

Results are presented on evaluations of English writing skills of a narrative type at Grades 4, 6, 7, and 11 in the schools of the PSBGM in 1973-74. Students in bilingual programs were compared with those in regular English programs, the sample sizes ranging from 26 to 117 at different grade levels. Compositions were scored on nine dimensions, using appropriate criteria for the grade level, by two independent raters who did not know to which group the scripts belonged.

In 13 statistically significant differences the immersion students were rated higher, but some of these did not recur across grades, suggesting that they may be due to teacher and/or student characteristics rather than to instructional programs. The non-immersion students were rated higher at the Grade 4 level in spelling and at the Grade 6 level on length and punctuation.

GENESEE, F.; Tucker, G.; and Lambert, W. "Communicational Effectiveness of English Children in French Schools". Canadian Journal of Education 2, no. 3 (1977), pp. 15-24.

Native English-speaking children from Kindergarten to Grade 2 in regular English schools, regular French schools, and immersion classes were evaluated on effectiveness of communication in English. The nine groups had an average size of 11 students and the individual test sessions were tape recorded, with six types of utterances being categorized. There were no significant differences between groups, suggesting that participation in a total second-language school program had no detrimental effects on these children's communication skills in the first language.

GRAY, V. "A Summary of the Elementary School Evaluation of the Early French Immersion Program in Fredericton, New Brunswick". Canadian Modern Language Review 42 (May 1986), pp. 940-951.

The evaluation of an early-immersion program in which minimal English instruction is introduced in Grade 4 shows that by the end of Grade 6 the immersion students achieved the same level of performance as students of comparable ability in the regular English program in all aspects of English linguistic and academic skills, except spelling. In French skills the immersion students began to surpass Grade 12 students in the core French program by Grade 3, but at the end of Grade 6 they still performed lower than bilingual and unilingual Francophone peers.

Achievement levels at the end of Grade 6 are presented in terms of approximate grade equivalents. The importance of language competence for progress in academic areas is discussed.

GRAY, V., and Cameron, C. "Longitudinal Development of English Morphology in French Immersion Children". Applied Psycholinguistics 1 (1980), pp. 171-181.

Development of plural and past tense morphological rules was examined longitudinally with 272 English-speaking children enrolled in French immersion or traditional English curricula. Children were tested in Grades 1 through 4 on 18 items from a test using nonsense syllables and pictures to examine their use of word inflection rules. There were no performance differences between the two curriculum groups and the longitudinal data indicated that the acquisition of inflection rules follows an orderly sequence for an individual child. Most children master the basic rules by the age of ten, but irregular and more difficult forms are still developing at that age. The correlations between the test scores and intelligence were found to be small but significant (about 0.20). The results confirmed previous findings that the immersion program does not have a deleterious effect on first-language development.

HALPERN, G.; MacNab, G.; Kirby, D.; and Tuong, T. "The Full Bilingualism Alternative". Chapter 5 in Alternative School Programs for French Language Learning. Toronto: Ontario Ministry of Education, 1976.
ON000564

This chapter describes variations of both early and late French-immersion programs available in Canada by 1976. In research carried out at the intermediate level (Grades 6 to 8) in the Ottawa area from 1973 to 1975 there was no demonstrable difference in French proficiency among first- or second-year students in programs starting at one of these grade levels. In addition, student achievement in mathematics, language arts, history, and geography at the end of the second year was at least as high as that of comparison students taught in English.

JACKSON, O., and Duncan, J. An Evaluation of the French Immersion Program 1984-85. Report no. 180. Hamilton: Research Services Department, Board of Education for the City of Hamilton, 1985.

This report is a review of the French-immersion program over the past nine years in Hamilton schools, with particular emphasis on data collected in 1984-85. A test of French reading proficiency was administered in Grades 1, 2, and 8, while English reading and mathematics tests were given in Grades 6 and 8. The general academic ability of the French-immersion students as a group is well above average, but there is no evidence to suggest that children with average or below average ability achieve less well in immersion than they would in a regular class. The immersion students appeared to perform satisfactorily on the tests given both in English and in French. Similar results were reported in the early years of the program; the weakness in English spelling skills which appeared consistently at the Grade 3 level had disappeared completely by the end of Grade 6.

JONES, J. "Multilingual Approach Reflects Canadian Mosaic". Language and Society 12 (Winter 1984), pp. 33-38.

This article provides a brief overview of the immersion-type programs in Ukrainian, Hebrew, and German which have been offered, in addition to French, in the Edmonton Public Schools for several years from Kindergarten or Grade 1 through Grade 5 or 6. The Ukrainian program has been continued through junior high school and two other bilingual programs, in Chinese and in Arabic, began as private kindergartens in 1982 and were taken over by the public schools the next year. The article discusses the administration of the programs, parental expectations, sources of curriculum materials, and the need for professional development. Evaluations showed that, in general, students in the program achieved as well in English reading and mathematics as matched controls from the all-English program.

LAMBERT, W., and Anisfeld, E. "A Note on the Relationship of Bilingualism and Intelligence". Canadian Journal of Behavioral Science 1 (1969), pp. 123-128.

This note restates and re-examines the findings of a 1962 study which found an apparently genuine positive relationship between bilingualism and intelligence. The selection of subjects in the original study had been criticized as being biased. Details are given as to the method of selection of 'balanced' bilinguals and the writer refutes the suggestion that this process inadvertently selected more intelligent children in this group than in the monolingual group.

LAMBERT, W., and Tucker, G. Bilingual Education of Children: the St. Lambert Experiment. Rowley, Mass.: Newbury House Publishers, 1972.

This book describes the evaluation of the pilot class in the well-known St. Lambert immersion program. At the end of a five-year period there appeared to be no retardation in native language or cognitive development or in subject-matter achievement among the immersion students. Although the experimental group could not be classified as 'balanced' in their bilingual competence, it was felt that such a goal was achievable for these students. However, the writer said it was unreasonable to expect that the school program alone could provide sufficiently varied conditions for the development of balanced expressive fluency. There was some evidence that children in the immersion classes were less ethnocentric in their attitudes than those in the English control group and that they had developed confidence in their second-language ability. The importance of parental support was also emphasized.

LAPKIN, S. "The English Writing Skills of French Immersion Pupils at Grade Five". Canadian Modern Language Review 39 (October 1982), pp. 24-33.

Annual evaluations of French-immersion programs in the Ottawa area have shown that by Grade 4 immersion pupils perform as well on standardized English achievement tests as comparable students in the English program. This paper attempts to explore the English language writing skills of pupils at the Grade 5 level in these two programs. Global ratings of the overall quality of the writing samples and a detailed analysis of some aspects revealed no differences in the writing ability of the two groups. The author concludes that this evidence contradicts the 'threshold' hypothesis postulated by Cummins, which suggests that the in-depth knowledge of a second language may have positive effects on first-language development.

MORRISON, F., and Pawley, C. Subjects Taught in French. Tenth Annual Report to the Ministry of Education, Part I. Ottawa: Ottawa Board of Education Research Centre, 1983.

Tests in mathematics and geography for Grade 9 and in history for Grade 10 were given to students in secondary-level post-immersion classes in Ottawa (N=101 to 172) and to a somewhat larger number of comparison students taking the same courses in English. The students taking the course in French took the tests in both languages, half with the English first and half with French first. Even after adjustment for differences in scholastic aptitude between the groups, those who took mathematics in French had higher scores than the group instructed in English. In history and geography there were no significant differences in scores between the groups instructed in different languages. However, the group instructed in French obtained lower scores on the French version of the history test than on the English version, a difference which could be attributed to their more limited French reading comprehension. In their responses to a questionnaire many students felt that they obtained lower marks when they took a subject in French than they would have if they had taken it in English and that they were also somewhat handicapped by not knowing technical terms in English when they had taken a subject in French.

NETTEN, J., and Spain, W. Immersion Education Research in Newfoundland: Implications for the Classroom Teacher. Les Nouvelles de l'ACPI/CAIT News (October 1982), pp. 16-19.

Yearly evaluation studies since the inception of French-immersion (FI) programs in 1975 indicate that while regular English classes have tended to become more homogeneous there has been an increase in the variability in immersion classes. Results have also indicated that the learning of mathematics for the FI pupil is more closely related to language ability in both languages than is the case for pupils in the regular English stream. In addition, while FI pupils are able to do mathematics in both languages, their competencies in this area may vary considerably as they progress through the program. At the early stages, FI pupils appeared to do better when tested in English, and, after instruction for a year or longer in French, they did better when tested in French. Still later, pupils in FI did equally well in mathematics when tested in either language.

Correlations of scores in French reading and English reading tests indicated that pupils who read well in English also read well in French and that those who have difficulties reading in French are normally the same ones who have problems in reading in English. In the early stages of a FI program, achievement in the second language appears to be more closely related to listening comprehension abilities than does demonstrated competence in English language skills. Moreover, some students in early immersion who came from a weaker English language background made better progress in the content areas than their peers in the regular English stream. These observations suggest that for the immersion teacher instructional processes need to focus much more on language development than is the case in regular English classrooms.

PAWLEY, C., and Walsh, M. French Proficiency and General Achievement of Grade 8 Students in Primary- and Late-entry Immersion. Working Papers 135 and 135a. Ottawa: Ottawa Board of Education Research Centre, 1980.
ON03025

In the spring of 1980 tests of French proficiency and of general achievement were taken by Grade 8 students in early- and late-entry immersion and by comparison groups at the same grade level in Ottawa and Carleton schools. On three measures of French reading and writing, the early-entry groups in both boards had higher mean scores after adjustment for differences in aptitude. When the achievement test scores were also adjusted for aptitude, it was found that both the early- and the late-immersion groups scored at least as well as or better than the comparison group in the same board.

SHAPSON, S., and Day, E. "A Longitudinal Evaluation of an Early Immersion Program in British Columbia". Journal of Multilingual Development 3 (1982a), pp. 1-16.

The results of this study of two cohorts of students from Kindergarten to Grade 6 are consistent with those of many other studies of immersion programs with respect to achievement in English and French. A measure of attitudes showed that the immersion students tended to have more positive attitudes toward French language and culture than core French students tested in the B.C. French Study.

SHAPSON, S., and Day, E. "A Comparison Study of Three Late Immersion Programs". Alberta Journal of Educational Research 28 (1982b), pp. 135-148.

A comparison is made between the effects of three Grade 6 late-immersion programs (N=83; 55; 68) which differed in the amount of instructional time in French, the previous background of the students in French and the use of selection criteria. At the beginning of the program there were no significant differences among the students in the three programs in cognitive abilities but significant differences in French language skills and in attitudes toward French language and culture. At the end of Grade 6 significant differences were found in attitudes but not in achievement in French or English, using the pretest scores as covariates in an analysis of covariance. Similar results were found in a follow-up at the end of Grade 7.

STERN, H. "The Ottawa-Carleton French Project: Issues, Conclusions, and Policy Implications". Canadian Modern Language Review 33 (November 1976), pp. 216-243.

This paper summarizes two reports made by a team from the Ontario Institute for Studies in Education (OISE) concerning research done in the Ottawa-Carleton area between 1973 and 1975. The task was to evaluate and synthesize the work done under ministry contract by other researchers and to draw conclusions from them. Although ten years have passed since the article was written, the comments are still valid: the need for articulation of different approaches (core, extended, and immersion French), and for more attention both to the development and evaluation of curriculum materials, and to the recruitment and training of the teachers for second-language learning programs. He points out, however, that one lesson seems to have been learned from the project: namely, that it has been possible to improve the learning of French substantially in school settings by a combination of increased time and change in treatment.

SWAIN, M.; Lapkin, S.; and Andrew, C. "Early French Immersion Later On". *Journal of Multilingual and Multicultural Development* 2 no. 1 (1981), pp. 1-23.

[SEE Andrew, Lapkin and Swain, 1980.]

WILSON, R., and Connock, M. *An Assessment of the 50/50 Programme in the English Sector Schools*. Ottawa: Ottawa Roman Catholic Separate School Board, 1982.
ON03068

Grade 4 students (N=526) enrolled in 50/50 (partial) immersion were tested in English language arts and mathematics, French language arts, and environmental studies. Background data were obtained from questionnaires to students and to their teachers (N=27).

The students in the 50/50 program were progressing 'reasonably successfully' in basic skills in language arts (English and French) and arithmetic; the teachers working in English and French tended to concentrate on basic skills activities. Significant weaknesses were evident in student performance on test items which stressed complex reasoning and applications of basic skills to real-life situations. Scores varied greatly within classrooms, indicating that many were not reaching marginal levels of attainment. On the oral-aural test, the children performed better on the listening than the speaking components.

Additional References

BENNETT, J. et al. Evaluation of Grade 9 Advanced Level Geography, 1982. Report to the Carleton Board of Education. Ottawa: University of Ottawa, 1982.

CUMMINS, J. "Bilingualism and Educational Development in Anglophone and Minority Francophone Groups in Canada". Interchange 9, no. 4 (1979), pp. 40-51.

GAME, A. The Bilingual Program (50/50): An Alternative in the Pursuit of Bilingualism: Curriculum Considerations. In So You Want Your Child to Learn French. Edited by B. Mlacak and E. Isabelle. Ottawa: Canadian Parents for French, 1979, pp. 66-73.

VYGOTSKY, L. Thought and Language. Cambridge, Mass.: Massachusetts Institute of Technology Press, 1962.

WAHLSTROM, M. Measuring Achievement at the Intermediate Level: An Analytical Review of Test Instruments Used in Evaluating Student Achievement in English, Science, History and Geography. Toronto: Ontario Institute for Studies in Education, 1979.

III. FRENCH PROFICIENCY

Annotated Bibliography

ADIV, E. "An Analysis of Oral Discourse in Two Types of French Immersion Programs". Les Nouvelles de l'ACPI/CAIT News 8 (November 1985), pp. 22-23.

A picture-based individual test intended to elicit different types of narration was used with two groups of Grade 9 students who had been in early immersion (to Grade 6) or in late immersion (Grades 7 and 8) and with a control group of Francophone students. The study confirmed that both groups of immersion students could sustain oral communication in French as to quantity but that their speech was not native-like as to linguistic accuracy and incidence of pauses and repetitions.

[SEE also Adiv, 1980b.]

ADIV, E. Native Speaker Reactions to Errors Made by French Immersion Students. Montreal: Protestant School Board of Greater Montreal, 1982.
ED250915

A group of 231 native speakers of French listened to 50 pairs of deviant sentences to determine which sentence in each pair contained the more serious error. There were 20 different types of errors grouped into five categories, four pertaining to grammatical features, such as verb errors, omission, and wrong word order, and one set of vocabulary-related items. Results showed that inappropriate vocabulary, verb errors, and incorrect word order were considered more serious than omissions and confusion between forms belonging to the same grammatical class. Misplacement of negative particles and of object pronouns were considered the most serious errors of word order. The results also suggest that socio-economic class and educational background may influence native-speaker judgement.

ADIV, E. An Analysis of Second Language Performance in an Early French Immersion Program: Grades 3, 4 and 5. Montreal: Protestant School Board of Greater Montreal, 1980a.
ED225369

An oral production test involving 27 grammatical features which were examined by means of a detailed error analysis was given to 55 students in Grades 3 to 5. The results were compared to those previously obtained for Grades 1 and 2 and it was found that competence in the second language appears to improve from Grade 1 to Grade 3 and then remain stable from Grade 3 to Grade 5. Possible reasons for these findings are discussed with respect to the basic approach to second-language teaching in immersion programs.

ADIV, E. A Comparative Evaluation of Three French Immersion Programs: Grades 10 and 11. Paper presented at the Annual Convention of CAIT, November 1980. Montreal: Protestant School Board of Greater Montreal, 1980b.
ED225367.

The French proficiency of Grade 10 and Grade 11 students who had been in early immersion (to Grade 6) and two late-entry programs (Grade 7 and Grade 7/8) was assessed; English and French control groups were also included in the study.

At the Grade 10 level the only significant difference between groups who had been in early immersion and in Grade 7/8 immersion was on the global evaluation of compositions at the Grade 10 level. In Grade 11 the groups from early immersion and those from the Grade 7/8 program scored significantly higher than those from the Grade 7 group on all but the oral production test and the grammatical component of the compositions. All immersion groups scored lower than the French control group on the production tests. It was concluded that differences seem more pronounced on overall communicative competence than on specific measures, and that students in more intensive immersion programs develop native-like competence in comprehension but not in production.

ADIV, E. A Comparison of Early Immersion and Classes d'Accueil Programs at the Kindergarten Level. Montreal: Protestant School Board of Greater Montreal, 1979a.
ED225372

This study assessed the French language proficiency of students enrolled in an early-immersion class and in two classes (one in a French school and one in an English school) in a 'classe d'accueil' program. 'Classes d'accueil' represent the Quebec ministry's official solution for preparing non-Francophone children to be educated in French.

Tests included an oral comprehension test, an elicited imitation test, and an oral production test. Both 'accueil' groups scored higher than the immersion group on the elicited imitation test and on most of the oral production measures, but there were no significant differences between the immersion group and the others on the listening comprehension test. The 'accueil' group located in a French school produced more syntactic units than the one located in an English school, but these two groups did not differ on other measures.

ADIV, E., and Doré, F. The Long-term Effect of the Intensive French Second Language Program: An Assessment of Student Performance in Secondary Schools. Montreal: The Instructional Services Department, Public School Board of Greater Montreal, 1985.

The purpose of this study was to assess the French proficiency of students who had attended an intensive (extended) French-as-a-second-language program in Grades 4, 5, and 6 and who were enrolled in a special late-immersion program. The results led to the conclusion that the level of French proficiency of the groups from the intensive French group is much closer to that of those from the early-immersion program than the level of proficiency of the groups from the late-immersion program.

BENIAK, E. Aspects of the Acquisition of the French Verb System by Young Speakers of English and French in Quebec and Ontario. Quebec: Laval University International Centre for Research on Bilingualism, 1984.
ED243322

Three studies are presented, each of which is a comparison of the acquisition of an aspect of the French verb system by three groups of speakers. The speakers were young Anglophones learning French as a second language in an early French immersion (EFI) program in Montreal; young monolingual Francophones attending elementary French-language schools in Quebec; and young bilingual Francophones enrolled in elementary French-language schools in Ontario. It was found that EFI students (as late as Grade 6) had a significant proportion of errors affecting the past participle of verbs whereas no such errors were found in the speech of the Francophones. By Grade 6, the EFI students had not reached a level of grammatical proficiency comparable to that of Grade 2 native French speakers.

BONYUN, R. Grade 12 and 13 Student Surveys, Spring 1984. Working Paper 160. Ottawa: Ottawa Board of Education Research Centre, 1985.

Just over 400 bilingual-program students from Grades 12 and 13 in the Ottawa and Carleton school boards responded to the questionnaire survey, representing 65 to 80 per cent of the four groups. These students tended to rate themselves higher on comprehension of spoken or written French than on writing or speaking the language. There appeared to be little difference between the ways the early- and late-entry groups felt about their French proficiency. The French literature courses were described as particularly good, while more emphasis on the spoken language, better teachers, and wider course choice were suggested improvements. Most indicated that they expected the French language to play some role in their lives, such as improved job opportunities. Most expected to complete Grade 13 and proceed to postsecondary education, affirming an academically-oriented group.

BOUSQUET, R. "French Immersion Classes in the Montreal Region". French Review 52 (March 1979), pp. 584-593.
EJ203220

This article describes various types of immersion programs offered in the Montreal area, including early and late immersion, an intensive French program, and 'classes d'accueil' (see Adiv, 1979), in the context of the linguistic and confessional organization of schools in the province. This is based on the British North America Act which requires that schools in Quebec be organized by religious affiliation without specifying the language of instruction.

BRUCK, M., and others. "Bilingual Schooling Through the Elementary Grades: The St. Lambert Project at Grade 7". Language Learning 24, no. 2 (1974), pp. 183-204.

In this longitudinal study in which a second language was used as the major medium of instruction, the experimental group (French immersion) performed as well as or better than the control groups in language skills, academic skills and cognitive development. Children could also communicate effectively in their second language.

BRUCK, M.; Lambert, W.; and Tucker, G. Alternative Forms of Immersion for Second Language Teaching. Working Papers on Bilingualism 10 (1975), pp. 22-73. Toronto: Ontario Institute for Studies in Education.
ED126726

Two Grade 7 groups were tested to compare their French proficiency; one group had been in early French immersion to the end of Grade 6 and the other had followed the regular English curriculum with a strong French-as-a-second-language component during the same period. In Grade 7 the first group was in the regular English program with a French maintenance class and the second group followed a one-year intensive French-immersion program. On tests of French reading, writing, speaking, and listening, the early-immersion students generally performed better than the students in the later one-year intensive program. Neither group performed at the same level as a comparison group of Francophone students.

CANADIAN EDUCATION ASSOCIATION. French Immersion and School Boards: Issues and Effects. Toronto: CEA, 1983.

This report is based on a questionnaire survey in which 96 of the 155 boards contacted responded (62 per cent), including 69 which offered immersion programs. Details are given concerning the growth of French-immersion (FI) enrolment in all provinces from 1977 to 1983. A list of boards with the highest number and proportion of students enrolled in FI is provided. Responses also dealt with the effect of FI on staffing, budgets, administrative procedures, and transportation.

CAREY, S., and Cummins, J. "Communication Skills in Immersion Programs". Alberta Journal of Educational Research 30 (December 1984), pp. 270-283.

A variety of measures of communication skills in French were used with a total of 43 children, classified as to English, French, or mixed French-English home backgrounds, in Grade 3 of Edmonton Roman Catholic Separate bilingual schools. Ratings of teachers and of independent Francophone testers were not consistent and suggest a need for more attention to appropriate methods of evaluating communicative skills. The findings for these rather small groups also suggest that the acquisition of French speaking skills in an immersion context is not dependent on general academic ability.

CRAWFORD, P. Evaluation of the French Immersion Program. North York Board of Education, 1984.

This report summarizes the results of spring testing carried out in 1983 and 1984 for French-immersion (FI) students in Grades 2, 4 and 6 as well as data gathered from students in Grade 8 and Grade 9. On standardized achievement tests in English language arts and mathematics, the mean scores of all groups were within the expected range. Measures of French language skills showed that results were comparable to those obtained in immersion classes elsewhere in the province and that Grade 6 pupils scored at about the 30th percentile on a test intended for Francophone children at this grade level.

In addition, students in Grades 4 and 8 were asked to write compositions in English and in French; comparison groups in the regular English programs (EP) wrote on the same topics in English. There were no consistent differences in the compositions written by FI and EP students in English. However, compositions written in English tended to be superior to those written in French and to contain fewer errors. Many of the errors in the French compositions were due to a confusion with English.

CUMMINS, J. "Effects of Kindergarten Experience on Academic Progress in French Immersion Programs". Review and Evaluation Bulletins 2, no. 6. Toronto: Ministry of Education, 1981. ONO2007

This study was limited to the examination of data obtained from evaluations carried out in several different boards of education. In the midst of a number of confounding factors which made analysis difficult, it was concluded that exposure to French at the Kindergarten level, either in a full-day bilingual or a half-day French program was important for later progress in acquiring French skills. Students in the full-day bilingual program did not seem to have an advantage over those in a half-day French Kindergarten program in their subsequent academic achievement. It was pointed out that virtually no research data exist with respect to possible differential effects of the two types of program on children with different types of home background.

CZIKO, G. "The Effects of Language Sequencing on the Development of Bilingual Reading Skills". Canadian Modern Language Review 32 (May 1976), pp. 534-539.

English and French reading skills were compared for groups of children at the Grade 4 level who had followed a French-immersion program since Kindergarten and another group who had begun an immersion program at the Grade 4 level. The English test was a widely used standardized test of reading comprehension while the test of French reading ability was adapted from one originally developed for Grade 7 French-as-a-second-language students. The groups were equated in terms of age and class size; two control groups were used, one from the English program and one group for whom all schooling had been in French.

The group which started immersion in Grade 4 did as well on the French reading test as the early-immersion group, although it had had only one year of French reading instruction. In addition the former early-immersion students did not differ significantly from the Francophones on the French reading test. Moreover, neither the early nor the later (Grade 4) French program had detrimental effects on the development of English reading skills. The researcher concluded that neither program is clearly superior in fostering bilingual reading skills and feels that further research is needed to isolate the effects of the sequencing and timing of second-language reading instruction.

EDWARDS, H. "Evaluation of the French Immersion Program Offered by the Ottawa Roman Catholic Separate School Board". Canadian Modern Language Review 33 (November 1976), pp. 137-150. EJ150321.

Two immersion programs are evaluated: one from Kindergarten to the end of Grade 5 (50 per cent French in Kindergarten and Grades 4 and 5; only religion in Grade 1, and language arts in Grades 2 and 3 in English) and a one-year program in Grade 7. These are compared with core or extended French at the same grade levels. With respect to group averages, the English language achievement of students in all programs has been similar, as measured by standardized tests. Group results on three measures used to investigate the possibility of learning difficulties showed no evidence of any greater tendency for the immersion children toward such difficulties at any grade level.

Measures used to assess language skills in French showed a large and statistically significant difference in favour of the immersion group. By Grade 5 the immersion children can communicate without difficulty in the French language, but the author warns that the children should not be considered to be 'perfectly bilingual'.

Comments of guest analysts (Carroll, Burstall, Rivers) Dr. Carroll asked for an explanation of the considerable variation among individual classes and whether results were available for immersion classes explicitly identified as being of low SES. He pointed out that the best interpretation for the immersion success is that the language is being used instrumentally or in a truly communicative situation, and agreed that any lag is small and temporary, so that one is getting "two languages for the price of one".

Dr. Burstall also pointed out that the immersion groups tend to consist of middle-class children, with supportive parents, and asked whether the programs would have similar effects if they were extended to children of a wider range of age, ability, and SES. She suggested that, in view of evidence concerning the superior efficiency of the older learner, a systematic investigation should be made of alternative programs in the post-primary years.

Dr. Rivers wondered about the report that teachers preferred "a formal concept of language learning with increased stress on traditional methods rather than on the audio-lingual approach". She felt that there was an urgent need to think rather deeply about what constitutes an appropriate teaching approach in the early grades for developing communicative skill.

Dr. Edwards said that he believes that we can conclude that early immersion is a viable option which provides a functional use of the second language and which also appears to be fully compatible with the elementary curriculum objectives for at least a majority of the children. He stated that the issue of what aspects of subject matter are to be introduced early and which should be delayed does not appear to have a clear answer as yet.

EDWARDS, H., and Fu, L. An Evaluation of the 50/50 Bilingual Program Offered by the Stormont, Dundas and Glengarry County Roman Catholic Separate School Board in Grades One and Two, 1980-81. Cornwall, Ontario: Stormont, Dundas and Glengarry County Roman Catholic Separate School Board, 1981.

The French comprehension and English basic skills of pupils in this program were assessed using standardized tests, and the views of parents and teachers were obtained through questionnaires. The parents and teachers were pleased with and supportive of the program, although the latter expressed concern about the suitability of the program for certain pupils, the amount of remedial help available, and difficulties in the teaching of split grades.

French comprehension scores showed evidence of progress from Grade 1 to Grade 2 and showed the Cornwall pupils in Grade 2 as being ahead of the comparison group from Ottawa separate schools. In English the Grade 2 Cornwall pupils were almost one grade equivalent ahead of the Grade 1 pupils, although the scores of both groups were *relatively low in comparison with* the Ottawa group.

EDWARDS, H.; Fu, L.; McCarrey, H.; and Doutriaux, C. "Partial Immersion for English-speaking Pupils in Elementary School: The Ottawa Roman Catholic Separate School Board in Grades One to Four". Canadian Modern Language Review 37 (January 1981), pp. 283-296.
EJ242476

This paper presents an evaluation of the partial French immersion (PFI) program introduced in 1975 in the Ottawa Roman Catholic Separate School Board. Instruction is provided in either English or French in the morning and in the alternate language in the afternoon. The pupils also had a full-day bilingual Kindergarten before entering the 50/50 program, and during Grade 1 reading was introduced in both languages.

Four classes, representing different socio-economic levels, were tested in both English and French language skills each year from Grade 1 to Grade 4. Scholastic aptitude data were used to adjust results for differences in aptitude between groups, through analyses of covariance. Results were compared with those obtained in earlier years in French-immersion and extended-core (EC) programs, as well as with those obtained in a similar program in Elgin County.

Grade by grade contrasts showed that in English language skills and in mathematics in most cases the standardized achievement test (CTBS) scores of PFI pupils and those of EC students were either not significantly different or favoured the PFI students. These results differed from those obtained in the Elgin studies (see Barik, Swain and Nwanunobi). The French-language scores of PFI pupils were well above those of their EC peers but below those of early-immersion students. The authors concluded that PFI does not appear to impede first-language achievement and that the simultaneous introduction of reading in English and French did not have detrimental effects on the students' reading skills.

EDWARDS, H.; McCarrey, H.; and Fu, L. Evaluation of Second Language Program Extensions Offered in Grades 3, 4, and 5. Final Report, 1979-80. Ottawa: Ottawa Roman Catholic Separate School Board, 1980.

In 1979-80 an evaluation was carried out in Grades 3 to 5 of the bilingual program which had been established at the Grade 1 level in the Ottawa Separate School Board to replace the previous early and extended French programs. It was intended to assess the English and French language skills of the Grade 5 pupils and to replicate key elements of the evaluation previously carried out in Grades 3 and 4, as well as to obtain the views of teachers and principals concerning the program under study. The three classes selected from each of Grades 3 and 4 were intended to be comparable to the samples previously studied, while six classes were chosen at the Grade 5 level, five intended to represent the general socio-economic mix of bilingual-program pupils and one with a heavy concentration of third-language pupils. IQ and SES were used as covariates in multivariate analyses of covariance in making comparisons.

The findings to date suggest that on the average the bilingual-program pupils had French-language skills intermediate between those of the previous immersion and extended groups. The basic English language skills of the bilingual-program students, as measured by a standardized achievement test, did not seem to be adversely affected by the program. Parents, teachers and principals felt, however, that a suitable alternative program and increased remedial help are needed for certain pupils. The researcher suggested that the current bilingual program should be followed by an optional late-immersion program, together with a systematic effort in the intervening years to maintain the skills acquired earlier.

EDWARDS, H.; Wesche, M.; Krashen, S.; Clémont, R.; and Kruidenier, B. "Second-language Acquisition through Subject-matter Learning: A Study of Sheltered Psychology Classes at the University of Ottawa". Canadian Modern Language Review 41 (November 1984), pp. 268-282.
EJ315457

In this experiment on second-language acquisition via subject-matter teaching, university students, classified as being at a 'high intermediate' level of French language proficiency followed a psychology course taught in their second language in special 'sheltered classes'. The results confirm that adult students can gain in second-language proficiency in the absence of formal language instruction when subject-matter instruction in the second language is made comprehensible. The students gained about as much as comparison subjects who studied the target language directly and they succeeded in learning the subject matter at least as well as students in regular sections of the course. In addition, the subject-matter students reported a gain in confidence in second-language use.

The role of the supplementary language teacher within the sheltered class appears to be important, but research is needed to help in determining what kinds of intervention are effective in this situation.

GENESEE, F. "A Longitudinal Evaluation of an Early Immersion School Program". Canadian Journal of Education 3, no. 4 (1978b), pp. 31-50.
EJ204119

Grade 6 French-immersion students in Montreal were compared to an English control group of similar ability and to a French control group. The immersion students' English skills were equal to those of regular English students; they had also developed considerable competence in French, although their skills were not native-like.

Relative to comparable students in the regular English program, below average students in immersion are able to achieve comparable levels of competence in their first language, as did those who were average or above average. The author concluded that there was no indication that academic achievement was impaired as a result of participation in the immersion program.

GENESEE, F. "Bilingual Education of Majority-language Children: The Immersion Experiments in Review". Applied Psycholinguistics 4, (1983) pp. 1-46.
EJ279667

Second-language 'immersion' school programs that have been developed in Canada and the United States during the last two decades are described and the results of evaluative research pertaining to them are reviewed. Major immersion-program alternatives along with their theoretical bases and pedagogical characteristics are described. Research findings are then discussed with respect to the impact of participation in an immersion program on the students, native-language development, academic achievement, second-language proficiency, and on their attitudes and second-language use. Also, the suitability of immersion in different geographical or social settings and for students with distinctive, potentially handicapping characteristics is considered. It is concluded that second-language immersion programs are feasible and effective forms of education for majority-language children with diverse characteristics.

GENESEE, F.; Holobow, N.; Lambert, W.; Cleghorn, A; and Walling, R. "The Linguistic and Academic Development of English-speaking children in French Schools: Grade 4 Outcomes". Canadian Modern Language Review 41 (March 1985), pp. 669-685.

This is the first report of a projected three-year evaluation of the impact of French schooling on English-speaking children, with respect to English-language development, French-language proficiency and academic achievement. All of the staff were Francophone, but 80 per cent of the Grade 4 classes in the two schools involved were Anglophone; peer interaction in French was not present to a significant degree.

A sample of 20 children from the experimental classes were compared with an English control group from two schools where French immersion (FI) began in Grade 4, an early-immersion group which had been in FI since Kindergarten, and a French-language control group which had had 30 minutes a day of English as a second language. Measures of non-verbal reasoning, achievement in English and mathematics, and French proficiency were obtained, including written compositions and oral interviews. Classroom observations were conducted; classrooms were rated as very 'child-centered', with open-structure format, ongoing interaction, and individualization.

On standardized achievement tests, the only significant difference was in spelling, on which the English control group made fewer errors than the experimental group. The experimental group performed as well as the French control group on tests of French listening comprehension and writing, but lower on a cloze test, a test of language arts and ratings of oral production. The early-immersion group differed from the French control group on the same tests and performed better than the experimental group on the test of French listening comprehension and on ratings of communicativeness. According to the authors, the present findings suggest that there may be an upper limit to second-language proficiency that is achieveable in a school context which does not include a substantial opportunity for peer interaction in the second language.

GENESEE, F.; Polich, E.; and Stanley, M. "An Experimental French Immersion Program at the Secondary School Level: 1969-1974". Canadian Modern Language Review 33 (January 1977), pp. 318-332. EJ153760.

Two pilot groups of students in a Grade 7 immersion program with 85 per cent of instruction in French were evaluated each year until graduation from Grade 11 and compared with an English control group of similar size (N=115). English language skills and academic achievement were not impaired, and French language skills were better than those of students in the regular French-as-a-second-language program. Three replication studies with students of different levels of academic ability were undertaken; the IQ level did not affect the acquisition of interpersonal communication skills in French.

GRAY, V. "A Summary of the Elementary School Evaluation of the Early French Immersion Program in Fredericton, New Brunswick". Canadian Modern Language Review 42 (May 1986), pp. 940-951.

The evaluation of an early-immersion program in which minimal English instruction is introduced in Grade 4 shows that by the end of Grade 6 the immersion students achieved the same level of performance as students of comparable ability in the regular English program in all aspects of English linguistic and academic skills, except spelling. In French skills the immersion students began to surpass Grade 12 students in the core French program by Grade 3, but at the end of Grade 6 they still performed lower than bilingual and unilingual Francophone peers. Achievement levels at the end of Grade 6 are presented in terms of approximate grade equivalents. The importance of language competence for progress in academic areas is discussed.

GRAY, V. Evaluation of the Grade Nine French Immersion Program in Fredericton, N.B. Fredericton: University of New Brunswick, 1985.

Data obtained in 1982 and 1983 at the Grade 9 level are presented for the first two groups which entered the Fredericton early-immersion program and for Francophone comparison groups. The immersion students showed improvement on all of the French proficiency tests which had been administered at the end of the previous year. Their performance on measures of reading comprehension and language arts, however, continued to be somewhat lower than that of the Francophone comparison groups and also more similar to the Grade 8 than to the Grade 9 achievement of immersion students in the Ottawa-Carleton area.

HAMAYAN, E., and Tucker, G. Strategies of Communication Used by Native and Non-native Speakers of French. Working Papers on Bilingualism 17 (April 1979), pp. 83-96. Toronto: Ontario Institute for Studies in Education.

This study examines certain communication strategies used by Anglophone children learning French as a second language and by children whose mother tongue is French. Three groups of children at each of the third and fifth grades participated in the study: French native speakers, Anglophone children in an immersion setting, and Anglophone children in a French school (submersion). Children listened to a story and then were asked to retell it. The analysis was concerned with the extent to which five syntactic structures, such as indirect question, past participles, etc., were avoided. Results indicated that the extent to which avoidance occurred differed according to structure, grade level, and group. In addition, common strategies of avoidance, such as paraphrasing, could be identified.

HARLEY, B. Age as a Factor in the Acquisition of French as a Second Language in an Immersion Setting. In Second Languages: A Cross-Linguistic Perspective. Edited by R. Andersen. Rowley, Mass.: Newbury House Publishers, 1984, pp. 143-163.

The study was designed to compare some specific aspects of the oral French proficiency, in particular the productive control of the verb system, of the early-immersion (EFI) and late-immersion (LFI) students. The small sample consisted of a group of 12 native English-speaking students (EFI students in

Grade 1, LFI and partial immersion Grades 9 and 10) matched as to hours interviewed in French (for about 30 minutes). Consistency with which native speakers produced anticipated target verb form(s) was noted.

The results indicate that there was little difference between the age groups in their mastery of some features of the French verb system such as present tense forms and direct object constructions. However, the older LFI students were ahead in surface syntactic rules of number agreement and word order affecting pronouns. This may be due to the cognitive maturity and literacy experience of older students.

HARLEY, B., and Swain, M. "The Interlanguage of Immersion Students and its Implications for Second Language Teaching". In Interlanguage. Edited by A. Davies and others. Edinburgh: Edinburgh University Press, 1984, pp. 291-311.

Some interlanguage data were collected from a sample of students in Grades 1, 4, 6, and 10 who had been enrolled in early total French-immersion programs in Toronto and Ottawa and were compared to relevant data from native speakers. The article includes discussion of non-native-like errors in the verb system found in oral production, oral translation and multiple-choice grammar items. Compared with native speakers of French, they did not have adequate knowledge of the use of the conditional in different contexts, being too formal in an informal context and vice versa. It is, therefore, considered necessary to take into account both form and function when assessing language development. More difficulties were encountered by Grade 1 (EFI) students with the verb system than by Grade 8 LFI entrants. It is suggested that this is partly dependent on their maturity but that introducing other activities (card sorting, problem-solving games) at the Grade 1 level would focus on features of French known to cause problems, involving L1 influence.

HARLEY, B., and Swain, M. An Analysis of Verb Form and Function in the Speech of French Immersion Pupils. Working Papers on Bilingualism 14 (October 1977), pp. 31-46. Toronto: Ontario Institute for Studies in Education.

This pilot study investigates the performance in French of five English-speaking children, randomly chosen from a Grade 5 class of primary French immersion in Toronto. From speech data obtained in individual interviews, an analysis was made of the students' control of the French verb system. The immersion children used verbs with almost as much frequency as native French speakers but the variety of verb forms was smaller. One verb form that they appear in general to be unable to produce is the conditional. Analysis of how the immersion children try to communicate the hypothetical function, commonly realized in French by the conditional, shows that they use a variety of simplifications which have the effect of weakening but not completely eliminating the notion of the hypothetical.

HOLOBOW, N.; Genesee, F.; Lambert, W.; Gastright, J.; and Met, M. An Evaluation of Partial French Immersion in the Cincinnati Public Schools: The Kindergarten Year. Montreal: McGill University, 1986.

At the Kindergarten level children in a 50/50 French-immersion program in a large American city were given tests of listening comprehension and oral production. It was evident that the children understood spoken French far better than they spoke it. However, children from socio-economically underprivileged families were found to benefit as much as children from middle-class homes from this introduction to a foreign language. The present results also indicate that English-speaking Kindergarten pupils who spend half of their academic time in a foreign language can progress as well in English as carefully matched control pupils following a conventional all-English program.

IRELAND, D.; Gunnell, K.; and Santerre, L. A Study of the Teaching and Learning of Aural/Oral French in Immersion Classes (Preliminary Report). Ottawa: Ontario Institute for Studies in Education, Ottawa Valley Centre, 1979.

During four months in the spring of 1979 five Francophone observers visited 40 immersion classrooms at regular intervals. About ten minutes of verbal interaction involving teacher and students was recorded, transcribed, and coded in terms of formal and functional types of teacher and student behaviour. The percentage of utterances in each category is presented by grade level from Kindergarten to Grade 6.

An average of 60 per cent of what the teachers said and 40 per cent of student talk in Grades 1 to 6 was judged to be functional, that is, to have a primary purpose other than instruction in French. In Kindergarten and to some extent in Grade 1 repetition and other structured activities, intended to increase listening comprehension and to encourage speaking, occupied a larger proportion of the time than at later grade levels.

This preliminary publication is part of a larger (unpublished) sequence which includes qualitative analyses as well as the quantitative data described above.

KIRBY, D. French Assessment of Late-entry French Immersion Students: Public Service Commission of Canada Language Knowledge Examinations. Research Report 77-11. Ottawa: Ottawa Board of Education Research Centre, 1977a.

A random sample of about 70 students from Grades 9 to 13 in bilingual programs took the Public Service Commission (PSC)

LKE 400B battery of tests in four areas. Results were compared with those on the tests of the International Association for the Evaluation of Educational Achievement (IEA). At the time of testing, level 02 ability indicated competence for most bilingual jobs and levels 03 and 04 for clerical and technical jobs requiring less competence. The average level of 02 was attained in reading and writing by Grade 11 students after three years in the program and in reading, writing and listening by Grade 12 and 13 students. Both groups reached an average level of 03 in speaking. In about 9 cases out of 10, students who obtained a score of 25 or more on an IEA test of reading, writing or listening reached the 02 level on the PSC tests. A similar cutoff score was not found for speaking.

KIRBY, D. French Assessment of Late-entry French Immersion Students: The Interview Assessment. Research Report 77-09. Ottawa: Ottawa Board of Education Research Centre, 1977b. pp. 1-11.

An individual interview was held in French with 24 students from Grades 9 to 13 who had been enrolled in an immersion or bilingual program in the Ottawa or Carleton Board of Education for at least three years. The interview was intended to elicit information useful in matching the student with a Francophone student involved in a possible bilingual exchange program. The recorded interviews were scored for comprehension, pronunciation, vocabulary, grammar, and fluency. The interview performance correlated moderately (about 0.45) with the performance on the IEA oral production test. The correlation between total score on the interview and the speaking score for students who had taken the PSC speaking test was 0.85.

LAPKIN, S., and Swain, M. "Research Update: The New Brunswick Study". In More French, s'il vous plaît! Edited by W. R. McGillivray, pp. 47-54. Ottawa: Canadian Parents for French, 1985.

A province-wide evaluation of early-immersion (EFI) and late-immersion (LFI) programs in New Brunswick was carried out during the 1982-83 school year, with emphasis on the French second-language achievement of both EFI and LFI students in Grade 9. Tests of French listening and reading comprehension were used, together with 'À vous la parole', an evaluation unit developed originally for use in Saskatchewan.

The EFI students (N=218) performed as well on the listening comprehension tests as a comparison class of unilingual Francophone students and better than the LFI group (N=192). Both immersion groups obtained significantly lower scores on the reading test than the Francophone group. On all of the grammatical measures of speaking and writing and on some of the discourse measures used, there were differences in favour of the

Francophone comparison groups. As in other studies, the EFI students consistently rated their French skills higher and reported feeling more confident in using French than the LFI group.

LAPKIN, S., and Swain, M. *Evaluation of the French Skills of Grade Six Students in Early and Middle French Immersion Programs in the Toronto Board of Education*. Toronto: Ontario Institute for Studies in Education, March 1984a.

One class of 'middle-immersion' students, who had been in the program from Grade 4 through Grade 6, was compared with two classes of students from socio-economically similar schools who had followed an immersion program since Kindergarten. The difference between the two early-immersion (EFI) classes was sometimes greater than the difference between the middle-immersion class and the other two. No significant difference in French reading comprehension was found among the groups after scores had been adjusted for differences in scholastic aptitude. The French listening comprehension of one of the EFI classes was significantly greater than that of either the middle-immersion class or the other EFI class. On measures of speaking and writing, for randomly selected subgroups of 12 or 13 students, a significant difference was found on the pronunciation measure, using a t-test, but this was not supported when a more conservative test (Scheffé) was used.

LAPKIN, S., and Swain, M. *Second Language Maintenance at the Secondary School Level*. Final Report to the Carleton Board of Education. Toronto: Ontario Institute for Studies in Education, June 1984b.

Based on results of a French cloze test and a scholastic aptitude test, representative samples were selected from two early- and two late-immersion classes in the Carleton Board of Education and a comparison group from two classes of Francophone students in the same board. A second comparison group consisted of a class of unilingual Francophones from the Montreal area. A French language evaluation unit 'À vous la parole' was administered to the Carleton students in Grade 9 and again in Grade 10, when two additional tests were included. Specific linguistic analyses were conducted to examine features of immersion students' language that appeared to distinguish it from that of native speakers.

Several statistically significant differences in scores on the speaking and writing tests distinguished the immersion-program groups from one or both of the comparison groups, particularly at the Grade 9 level. The measures also showed significant gains between Grade 9 and Grade 10 on two of the measures for immersion students and also differences between early- and late-immersion groups in several instances. In spite of the small sample size, the measures appear to be able to detect group differences and the analyses provide insight into areas of strength and weakness among the immersion students, but follow-up studies seem to be needed.

LAPKIN, S., and Swain, M. "The Use of English and French Cloze Tests in a Bilingual Education Program Evaluation: Validity and Error Analysis". Language Learning 27, no. 2 (1977), pp. 279-314.

[SEE also Swain, Lapkin and Barik, 1976, for similar data at the Grade 5 level.]

In a detailed error analysis, the errors made on cloze tests in English and French by immersion students were compared with those made by comparison groups of students in English programs and in Francophone schools. Differences between the immersion students and the unilingual English group were negligible, supporting the view that prolonged exposure to the second language has had no negative effects on native-language development. The immersion students made considerably more errors than the unilingual Francophone group, but most of the errors made were similar in type and suggest that both groups used similar strategies for processing the passages.

LAPKIN, S.; Swain, M.; Kamin, J.; and Hanna, G. "Late Immersion in Perspective: The Peel Study". Canadian Modern Language Review 39 (January 1983), pp. 182-206.

This paper presents the findings of the 1979 testing program carried out with students in late-immersion (LFI) programs at Grades 8, 10, 11, and 12. A student questionnaire dealing with the students' background, use of French, and attitudes was included. There were no significant differences among the relatively small groups tested in Grades 10 to 12 (N=14 to 25), but when compared with Grade 8 results obtained in the same year for LFI students, there were significant differences in favour of those in the higher grades. It is suggested that the senior high school program for LFI students is sufficient to maintain but not to enhance second-language performance as measured by the two tests used. Tables showing accumulated time in various programs and many other comparisons with previous cohorts and with groups in programs elsewhere are included. For example, differences at the Grade 8 level were found in favour of EFI students in the Ottawa-Carleton area.

LIGHTBOWN, P. "Question Form and Question Function in the Speech of Young French L2 Learners". In Aspects of Bilingualism. Edited by M. Paradis. Columbia, S.C.: Hornbeam Press, 1978, pp. 21-43.

This longitudinal study traced the development of information questions in the spontaneous speech of two Anglophone boys learning French by attending French-language schools. Comparisons were made with the development of the same forms and meanings in the speech of children learning their first language. The Anglophone children showed no evidence of having yet learned that French permits full verb inversion in questions (e.g. 'que penses-tu?'); when inversion occurred, it followed English rules. There is a need for developing adequate indices of linguistic development as a guide in choosing comparison groups.

MacLEAN, M., and d'Anglejan, A. "Rational Cloze and Retrospection: Insights into First and Second Language Reading Comprehension". Canadian Modern Language Review 42 (March 1986), pp. 814-826.

This study explores the extent to which readers use across- and within-sentence information when reading comparable text in their first language (L1) and their second language (L2), as well as the extent to which the use of these two procedures is influenced by text difficulty. The sample consisted of 21 native French-speaking cadets enrolled in ESL classes at a military college. Readability formulae and validation with native speakers were used to identify texts representing different levels of text difficulty within and across languages. Students were asked to complete cloze tests in which the deletions were carefully controlled and also to write down what helped them to decide on selected responses.

The results suggest that advanced L2 learners were able to use information from a variety of sources to comprehend L1 and L2 texts, with a preference for across-sentence strategies. It also appeared that second-language learners have difficulty using contextual constraints beyond the sentence level and in using within-sentence information in comprehending L2 texts. It was suggested that this approach can help in developing understanding of the reading comprehension process in L2 and that other factors besides surface-level text difficulty need to be considered when selecting texts for comparing L1 and L2 reading behaviours.

MAURICE, L., and Roy, R. "A Measurement of Bilinguality Achieved in Immersion Programs". Canadian Modern Language Review 32 (May 1976), pp. 575-581.

This study, carried out in Grades 2, 4 and 6 in a Winnipeg school, investigated the use of Hunt's Terminable-Unit (T-unit) as a measure of students' command of English and French. Students viewed a short film and retold the story; those in Grades 4 and 6 also wrote short compositions. The measurements were the mean number of T-units, the mean number of words produced and the mean T-unit length. At the Grade 4 level there was a high correlation (0.74) between the mean number of words produced orally in English and in French. The analysis of variance indicated that Grade 4 and Grade 6 students displayed similar maturity in oral and written work in French and English, as determined by T-unit length.

It was concluded that the T-unit deserves consideration as a measure of linguistic abilities bypassing language mechanisms such as pronunciation, spelling and punctuation. This study demonstrated an unsuspected balance of bilinguality in the immersion students studied.

MORRISON, F., and Pawley, C. French Proficiency of Immersion Students at the Grade 12 Level. Eleventh Annual Report to the Ministry of Education, Part I. Toronto: Ontario Ministry of Education, 1986.

Students who had entered Kindergarten in 1971 (the K-71 cohort) and who were completing Grade 12 in immersion programs in Ottawa and Carleton were tested in the spring of 1984. The late-entry (LFI) group (N=69) had completed from 3000 to 4000 hours of instruction in French, while the cumulative amount of time in French averaged from 6500 to 7000 hours for the early-entry (EFI) groups (N=71). On two tests of French proficiency taken at the University of Ottawa no significant differences were found between the EFI and LFI groups. Over 90 per cent of the total group obtained scores on one of these tests which were high enough to excuse them from the required French language course at the University of Ottawa. The Grade 12 mean scores on another test were considerably higher than the post-test means of a group of Anglophone students who had just completed a 'sheltered' course in psychology taught in French. On a third test administered in 1984, an individual speaking test designed to examine fluency and communicative competence, the mean scores of the EFI group were found to be significantly higher than those of the LFI students. A regression analysis showed that a combination of several measures of French proficiency obtained in Grades 8 and 10 could lead to a multiple correlation of about 0.70 with two of the criterion tests taken by Grade 12 students at the University of Ottawa (see Table 3 in Appendix B).

MORRISON, F., and Pawley, C. Subjects Taught in French. Tenth Annual Report to the Ministry of Education, Part I. Ottawa: Ottawa Board of Education Research Centre, 1983.

Tests in mathematics and geography for Grade 9 and in history for Grade 10 were given to students in secondary-level post-immersion classes in Ottawa (N=101 to 172) and to a somewhat larger number of comparison students taking the same courses in English. The students taking the course in French took the tests in both languages, half with the English first and half with French first. Even after adjustment for differences in scholastic aptitude between the groups, those who took mathematics in French had higher scores than the group instructed in English. In history and geography there were no significant differences in scores between the groups instructed in different languages. However, the group instructed in French obtained lower scores on the French version of the history test than on the English version, a difference which could be attributed to their more limited French reading comprehension. In their responses to a questionnaire many students felt that they obtained lower marks when they took a subject in French than they would have if they had taken it in English and that they were also somewhat handicapped by not knowing technical terms in English when they had taken a subject in French.

MORRISON, F.; Pawley, C.; Bonyun, R.; and Unitt, J. Aspects of French Immersion at the Primary and Secondary Level in the Ottawa-Carleton Area. Twelfth Annual Report to the Ministry of Education. Toronto: Ontario Ministry of Education, 1986, pp. 1-24.

Over 500 students who had been in immersion programs in the Ottawa and the Carleton Boards of Education (the K-74 cohort) took two group tests of French proficiency at the Grade 10 level in 1985. A subsample (about 100) was tested individually with two measures of speaking proficiency. There had been significant differences between early-immersion (EFI) and late-immersion (LFI) students in an earlier cohort (K-71), but in the K-74 group the only such difference found was on a measure of fluency in speaking. There was also a gradual increase over a four-year period in the mean scores at the Grade 10 level for LFI students and a decrease for those in the EFI program. These trends may reflect gradual changes taking place in the groups enrolling in these programs.

In addition, it was possible to give the two group tests to about 60 students who had left the two immersion programs at the end of Grade 8. For those tested there tended to be a difference in favour of former students in the EFI program. However, the mean score on one of the tests was significantly greater than that obtained by the same students on a similar test taken in Grade 8, suggesting a continued increase in French proficiency after leaving immersion.

MORRISON, F.; Pawley, C.; and Bonyun, R. After Immersion: Ottawa and Carleton Students at the Secondary and Post-Secondary Level. Ninth Annual Report to the Ministry of Education. Ottawa: Ottawa Board of Education Research Centre, 1982. Chapter 4.

In the spring of 1982 arrangements were made for a sample of 48 Grade 10 Ottawa early-entry immersion (EFI) students to take the Public Service Commission LKE 400B series. On the tests of French reading, writing and listening, the average student in this group reached Level B, the highest level which could be achieved on this test. The mean score on the speaking test was classified at Level A. Late-entry immersion (LFI) students at various grade levels had taken these tests in previous years with similar results.

[SEE also Kirby, 1977a.]

An experimental speaking test was devised by the Ottawa Research Centre staff in order to examine the degree to which bilingual-program students in Grades 8 and 10 were able to produce certain grammatical structures correctly in French. It was found that the EFI groups at grades 8 and 10 performed significantly better on the whole than did the LFI ones. The Grade 10 groups also had significantly higher mean scores than the Grade 8 groups in the same program. The detailed results presented in the chapter enable the reader to examine similarities and differences in the use of individual structures among the various groups and should be of interest to teachers and those responsible for program development.

MORRISON, F.; Unitt, J.; and Dionne, L. Speaking French in Five-year-old Kindergarten. Research Report 84-07. Ottawa: Ottawa Board of Education Research Centre, 1984.

A group of 31 children who had experienced a half-day French immersion program in Junior and Senior Kindergarten were matched by age and sex with children in the same five-year-old (or Senior) Kindergarten class who had been in immersion only one year. Two listening comprehension tests and four tests of expressive language were developed and administered individually to these children in the spring of 1984. In all cases the group with two years of French immersion had higher scores than the group with one year, but differences were significant for only three of the tests developed for the project, some of which were at an inappropriate level of difficulty.

PARKIN, M.; Morrison, F.; and Quirouette, P. Enhancing Language Development in Early French Immersion with Classroom Television. Toronto: Ontario Ministry of Education, 1986. ON02364

It had been noted by previous researchers that there was a similarity between some aspects of immersion students' spoken French and naturally occurring 'pidgin' languages. The parallels between the two situations suggested that learning of French in immersion classes might be enhanced by extending the language models to which they were exposed. Fourteen classes of pupils in Grades 3 and 4 in Ottawa schools were involved in a study of this possibility, using half-hour television programs three times a week to broaden the students' language exposure. The spoken French of the children in both experimental and control groups was measured using individual interviews, with ratings on five factors and additonal analyses of various aspects of the responses.

There was a significant main effect for grade but not for treatment on the interview ratings. The use of television appeared to be less beneficial for Grade 3 pupils than for those in Grade 4, perhaps because of the level of difficulty of the language used in the programs. Although this was an exploratory study, the results suggest that suitable intervention can affect the speaking skills of immersion children.

PARKIN, M.; Pawley, C.; Unitt, J. Grade Four Middle Immersion: First Year Evaluation, 1985-86. Research Report 86-08. Ottawa: Ottawa Board of Education Research Centre, 1986.

A new program, allowing students (N=67) to start French immersion at the beginning of Grade 4 after following a regular English program, was introduced in the fall of 1985. All subjects are taught in French except English language arts (20 per cent of daily instructional time). The entire groups tested consisted of 60 middle-immersion, 110 early-immersion and 96 regular English program students. Samples of 54 students from early immersion and from the regular English program were matched by sex and reading achievement (vocabulary section).

This initial survey showed that girls outnumbered boys 3:1 and that the students were more nearly like early FI students than those from regular English program in vocabulary and reading achievement scores. There were no differences for the groups with respect to self-image or pupils' perception about whether or not they were in control of important variables relating to school achievement.

PAWLEY, C. French Writing Test: Grade 10 Bilingual-Program Groups, Ottawa and Carleton, Spring 1982. Working Paper 149 (Chapter 3 of the Ninth Annual Report to the Ministry of Education). Ottawa: Ottawa Board of Education Research Centre, 1982.

Early- and late-entry students at the Grade 10 level (N=97 and 113, respectively) were asked to write a persuasive letter. The responses were rated by a native Francophone for general impression and on five analytic characteristics. Among the six ratings the only significant difference between the two groups was on word choice, where the early-entry group had a greater proportion of ratings at the higher levels. A detailed error analysis also showed little difference between the groups, and it appeared that inadequacy of vocabulary and the influence of English were the sources of many of the errors in the written French of both early- and late-entry immersion students.

SHAPSON, S., and Day, E. Evaluation Study of the Grade 3 Early and Grade 7 Early and Late French Immersion Programs in British Columbia. Burnaby, B.C.: Simon Fraser University, 1984.

A variety of measures of French proficiency, including a speaking test, was given to about 80 per cent of all students in early immersion at the Grade 3 level; a similar set of tests and an opinion questionnaire were given in 12 of the 13 classes of early or late immersion at the Grade 7 level in the province. Differences between early and late immersion were similar to those found elsewhere. It was also possible to compare the results for British Columbia Anglophone children on many of the tests, including the speaking tests, to those of Francophone children and also to those of immersion children elsewhere.

SPILKA, I. "Assessment of Second-language Performance in Immersion Programs". Canadian Modern Language Review 32 (May 1976), pp. 543-561.

The study evaluated the spontaneous speech of a sample of 20 students from the St. Lambert pilot group (Grade 6) and the follow-up group (Grade 5) and a control group of 20 students who were native speakers of French. Data are presented on speech production and sentence complexity and flexibility. It was noted that immersion students tended to favour relative clauses and that the rate of production (as measured in story telling) was slower. Descriptive data are also presented on immersion and control groups from Grades 1 to 6 with respect to sentence completeness and correctness and use of gender and of various parts of speech. In general, the speech samples of native speakers tended to be more homogeneous and to contain fewer errors than those of French-immersion students. The author suggests that further research is needed to determine the kinds of rules that are learned and those which resist acquisition.

SWAIN, M. Changes in Errors: Random or Systematic. Toronto: Ontario Institute for Studies in Education, 1975.

Students in Grades 1, 2 and 3 (N=78) French-immersion classes were asked individually to repeat each of 15 recorded French sentences. Errors in gender, number, case and person and total pronoun errors were expressed as a percentage of all pronouns. The percentage of correct pronouns increased with each grade, the range for the 16 subjects in Grade 3 being from 30 to 75 per cent. Possible causes of errors and of the differences in the error patterns at different grade levels are discussed.

SWAIN, M., and Barik, H. "Bilingual Education in Canada: French and English". In Case Studies in Bilingual Education. Edited by B. Spolsky and R. Cooper, pp. 22-72. Rowley, Mass.: Newbury House Publishers, 1978.

This consists of a comprehensive review of the introduction of bilingual education and of the research findings for the programs in Quebec (St. Lambert and the Protestant School Board of

Greater Montreal) and Ontario (Allenby Public School, Toronto, Elgin County, Peel County and Brampton Centennial Secondary School).

SWAIN, M., and Lapkin, S. Bilingual Education in Ontario: A Decade of Research. Toronto: Ontario Institute for Studies in Education, 1981.
ON01880

[Also published as Swain, M., and Lapkin, S. Evaluating Bilingual Education: A Canadian Case Study. Clevedon, England: Multilingual Matters, 1982.]

This publication reviews the research questions investigated which reflected the concerns of parents and educators, and gives an overview of procedures used in research studies carried out in several school systems in Ontario by staff of the OISE Bilingual Education Project. The conclusions drawn are based on a synthesis of all information available at the time, including evaluations conducted by other researchers in Canada. These include the following:

- After some temporary lags in English language skills relative to the performance of English-program students, the overall trend is for immersion students to perform as well as or better than these students (see Tables 7 and 8 in Appendix B).
- Early partial-immersion students (Elgin County) appear to take longer to match the performance of early total-immersion students (in both English and French).
- The French language skills of late-immersion students appear to be below those of Francophone comparison groups; the early total-immersion students seem to reach near-native proficiency on the tests of listening and reading used in the study, but not in speaking and writing.
- The immersion students almost always perform significantly better in French than core-French students.
- The ability to learn to communicate functionally in the second language is not related to measured intelligence.
- Immersion education has not been found to have negative effects on the early-immersion students' general intellectual development or on achievement in mathematics, science or social studies.
- Some evidence indicated that students in early partial immersion and in a late-entry program occasionally had difficulty relative to their comparison groups in acquiring skills in mathematics and science.

SWAIN, M.; Lapkin, S.; and Barik, H. The Cloze Test as a Measure of Second Language Proficiency for Young Children. Working Papers on Bilingualism 11 (1976), pp. 32-42. Toronto: Ontario Institute for Studies in Education, 1976.

This paper presents empirical data concerning the use of a cloze test as a measure of second-language proficiency. Grade 4 students in the fifth year of a French-immersion program were tested using both English and French cloze tests. Correlations between the cloze test and other language-achievement measures were calculated for both languages and were found to be high. In summative evaluations, the cloze technique provides a useful measure of overall second-language proficiency with this age group.

[SEE also Lapkin and Swain, 1977.]

WATKIN, G., and Fitchett, J. A Survey of the Amount and Kind of Writing by Grade Seven and Eight Students at One Ottawa Board School. Research Report 79-05. Ottawa: Ottawa Board of Education Research Centre, 1979.
ON01707

All student writings, including homework, were collected over a ten-day period from 97 English-program (EP) students and 28 French-immersion (FI) students in Grades 7 and 8 in one Ottawa Board of Education school. A 40 per cent random sample of these materials was stratified by grade and sex. Writings of 653 student days were categorized as copied work, subject-directed, subject-undirected, expressive or personal, and a word count was made of all writings in each category. For FI students, the findings indicated that in Grade 7 half of all the writing done was copied work and in Grade 8 half was subject-directed. By subject area, in Grade 7 over half of the written work in French, history, science and mathematics was copied, and in Grade 8 over half of the written work in science and social science was copied.

WESCHE, M.; Morrison, F.; Pawley, C.; and Ready, D. Post-Secondary Follow-up of Former Immersion Students in the Ottawa Area. Ottawa: Centre for Second Language Learning, University of Ottawa, 1986.

One of the purposes of this study was to gather baseline data on French proficiency, language-use patterns, and attitudes toward the French language of students who had been in early-immersion (EFI) or late-immersion (LFI) programs in the Ottawa-Carleton area and who were in their first year at one of the nearby universities. It was expected that the methods and instruments used in this pilot study could be useful in further longitudinal studies in the area and also in postsecondary studies elsewhere in Canada. Comparisons were made between students at four universities who had been in EFI (N=33) or LFI

(N=48) and also between groups attending the two universities in Ottawa (total N=62).

The report also includes a proposal for a continuation of the postsecondary follow-up of the students in the group known as the K-71 cohort (having entered Kindergarten in 1971) and a later group, the K-74 cohort. A final section contains an overview of the French-language offerings of the four universities whose students were involved in the pilot study, with an indication of the plans they had made for accommodating incoming immersion graduates.

Tests of listening and reading comprehension were used, together with a cloze test and a test of vocabulary-in-context based on OAIP items for Francophones. All students also completed a self-assessment questionnaire and another questionnaire about French-language use. Most of these tests had been developed at the University of Ottawa Centre for Second Language Learning. In addition, 55 students were tested individually using an interview type of speaking test which had been developed and used earlier at the Ottawa Board of Education Research Centre.

Analysis of variance showed that significant differences favouring the early- over the late-immersion samples were found on the listening subtest and on all speaking tasks. On the self-assessment measures of listening and reading proficiency differences approached significance ($p < 0.07$). There were no significant differences between the late- and early-immersion groups on the reading, vocabulary and cloze tests. In the comparisons of students at the University of Ottawa and Carleton University, significant differences were found on the speaking test and on the self-assessment measures.

Additional References

BONYUN, R. 1984 Follow-up of Bilingual Program Graduates. Working Paper 161. Ottawa: Ottawa Board of Education Research Centre, 1985.

BONYUN, R. The Ottawa High School Bilingual Program: Views of Two Groups of Graduates. Working Paper 147. Ottawa: Ottawa Board of Education Research Centre, 1983.

CARROLL, J. The Teaching of French in Eight Foreign Countries. International Studies in Evaluation, Vol. 5. New York: Wiley, 1975.

GENESEE, F. "An Invited Article - Bilingual Education of Majority-language Children: The Immersion Experiments in Review". Applied Psycholinguistics 4 (1983), pp. 1-46.

GENESEE, F. "Is there an Optimal Age for Starting Second Language Instruction?". McGill Journal of Education 13 (1978) pp. 145-154.

KRASHEN, S. "Immersion: Why it Works and What it has Taught Us". Language and Society 12 (Winter 1984), pp. 61-64.

MORRISON, F.; Bonyun, R.; Pawley, C.; and Walsh, M. French Proficiency and General Progress. Seventh Annual Report to the Ministry of Education. Toronto: Ontario Ministry of Education, 1980.

MORRISON, F.; Simms, E.; Sudermann, M.; and Unitt J. An Evaluation of the Summer Bilingual Exchange Program 1974-76. Research Report 78-16. Ottawa: Ottawa Board of Education Research Centre, 1978.

PAWLEY, C. What is the French Proficiency of Immersion Students Really Like? Paper presented at the Tenth Annual Conference, ACPI/CAIT, Ottawa, November 1986.

IV. CULTURAL KNOWLEDGE AND LANGUAGE USE

Annotated Bibliography

BONYUN, R. The Ottawa High School Bilingual Program: Views of Two Groups of Graduates. Working Paper 147. Ottawa: Ottawa Board of Education Research Centre, 1983.

In the spring of 1982 about 65 per cent of the 270 former Ottawa bilingual-program students who had been registered in a French language course in Grade 12 two or three years earlier replied to a questionnaire asking for their opinions about the program they had followed and what they had done since leaving school. The students had entered a bilingual program in one of the grades from 6 to 9 and about 90 per cent of the target groups had completed Grade 13 and obtained the Ottawa Board's Bilingual Certificate (13 credits in French). Most (80 per cent) were attending university or college in 1982 and felt confident of their ability to use French, although less than half had taken some French at the postsecondary level. These graduates appear to have met few serious difficulties as a result of their high school program and to feel that they had gained a skill that was both useful and personally rewarding.

CZIKO, G.; Lambert, W.; and Gutter, J. French Immersion Programs and Students' Social Attitudes: A Multidimensional Investigation. Working Papers on Bilingualism 19 (1979), pp. 13-28. Toronto: Ontario Institute for Studies in Education.

Children in Grades 5 and 6 in the Montreal area were asked to compare pairs of descriptive terms (e.g. bilingual English-Canadians, French people from France, Americans, etc.) as to the degree of dissimilarity. A process known as multidimensional scaling (MDS) was used to analyse the results for groups of early and late French-immersion students and for English-speaking and French-speaking control groups. The MDS procedure appeared to be a useful method for investigating attitudes of the children at these grade levels and the results suggested that the early immersion experience seemed to have reduced the social distance between self and French-Canadians. This seems to have been an isolated study without extensive follow-up.

DAY, E. "A Study of a Bilingual Exchange Program for Immersion Students". Contact 1 (1982), pp. 8-9.

The exchange program involved 60 Grade 7 students from British Columbia and an equal number of Grade 7 students from Quebec. The students exchanged personal letters with their twins and in British Columbia there was a series of presentations and activities on various aspects of French-Canadian culture before the 12-day visit to Quebec. The students completed two questionnaires intended to measure attitudes toward and knowledge of

French-Canadian culture before the program; posttesting was done for half the group after the cultural lecture component and for the other half after the trip to Quebec.

The students tested at the end of the pretrip activities showed significant gains in knowledge of French-Canadian culture, while those tested after the trip showed similar gains and also demonstrated significantly more positive attitudes toward French-speaking Canadians than they had on the pretest.

DE VRIES, J. Ottawa's French Immersion Graduates. Ottawa: Center for Research on Ethnic Minorities, Carleton University, 1985.

About 400 Ottawa immersion graduates were interviewed by telephone regarding their use of French in different domains since graduating from secondary school and their overall evaluation of their immersion experience. A quarter of those enrolled in courses were taking some taught in French. About three-quarters of those with a job spoke French some of the time, mostly to customers (63 per cent) and other employees (50 per cent); only 10 per cent were required to write in French at work. Two-thirds had used French on their summer job. They rarely spoke French with their family but about half sometimes conversed with friends and a quarter with neighbours. Seventy per cent claimed that they read French 'sometimes', 20 per cent 'never'. Two-thirds sometimes used French radio and T.V. while half indicated that they had never seen a film or play in French. Over 80 per cent rated the immersion experience as good and that it had been a help in entering the job market. Overall, females were more likely to evaluate their language training positively than males and were more likely than males to use French in their travels, in reading and with friends.

GENESEE, F. Second Language Learning and Language Attitudes. Working Papers on Bilingualism 16 (1978a), pp. 19-42. Toronto: Ontario Institute for Studies in Education.
ED165475

A questionnaire intended to ascertain students' feelings about using French, their actual use of the language outside of schools, their motivations for learning French, and their perceptions of their own competence in it was given to 65 Grade 6 students and 86 Grade 11 students in immersion classes and to control groups of comparable size and ability.

Results indicated that the immersion students felt more at ease about speaking French and assessed themselves as more competent than those in the control groups; they were also generally satisfied with the program. However, there was no indication that immersion students sought opportunities to express themselves in French.

KIRKWOOD, K.; Both, S.; Campana, M.; Fine, J.; Long, M.; Pierorazio, H.; and Rogers-Shermet, J. An Overview of French Immersion in Peel. Mississauga, Ontario: Peel Board of Education Research Unit, 1986.

A survey of principals of 14 schools with French immersion (FI), of parents of FI students (N=278), and of Grade 6 students in late and early FI programs (N=136) was undertaken. The average annual attrition rate for all grades for the period between 1978 and 1985 was 4.2 per cent, with the highest occurring in Grade 2 and during the fall months; 3.5 per cent were identified as exceptional (80 per cent of these as gifted and 16 per cent as having specific learning disabilities). The enrolment in FI had increased significantly each year of operation and to date one half of the original (1978) cohort remained in the program. Very few children had participated in bilingual exchange visits or lived in a French environment, but more than half of the parents felt that such experiences would be desirable. Improvement of job opportunities was seen by both parents and children as an important reason for becoming bilingual.

LAMBERT, W., and Tucker, G. Bilingual Education of Children: the St. Lambert Experiment. Rowley, Mass.: Newbury House Publishers, 1972.

This book describes the evaluation of the pilot class in the well-known St. Lambert immersion program. At the end of a five-year period there appeared to be no retardation in native language or cognitive development or in subject-matter achievement among the immersion students. Although the experimental group could not be classified as 'balanced' in their bilingual competence, it was felt that such a goal was achievable for these students. However, the writer said it was unreasonable to expect that the school program alone could provide sufficiently varied conditions for the development of balanced expressive fluency. There was some evidence that children in the immersion classes were less ethnocentric in their attitudes than those in the English control group and that they had developed confidence in their second-language ability. The importance of parental support was also emphasized.

LAPKIN, S.; Swain, M.; Kamin, J.; and Hanna, G. "Late Immersion in Perspective: The Peel Study." Canadian Modern Language Review 39 (January 1983), pp. 182-206.

This paper presents the findings of the 1979 testing program carried out with students in late-immersion (LFI) programs at Grades 8, 10, 11, and 12. A student questionnaire dealing with the students' background, use of French, and attitudes was included. There were no significant differences among the relatively small groups tested in Grades 10 to 12 (N=14 to 25), but when compared with Grade 8 results obtained in the same year for LFI students, there were significant differences in favour of those in the higher grades. It is suggested that the senior high school program for LFI students is sufficient to maintain but not to enhance second-language performance as measured by the two tests used. Tables showing accumulated time in various programs and many other comparisons with previous cohorts and with groups in programs elsewhere are included. For example, differences at the Grade 8 level were found in favour of EFI students in the Ottawa-Carleton area.

SHAPSON, S., and Day, E. "A Longitudinal Evaluation of an Early Immersion Program in British Columbia". Journal of Multilingual Development 3 (1982a), pp. 1-16.

The results of this study of two cohorts of students from Kindergarten to Grade 6 are consistent with those of many other studies of immersion programs with respect to achievement in English and French. A measure of attitudes showed that the immersion students tended to have more positive attitudes toward French language and culture than core French students tested in the B.C. French Study.

WESCHE, M.; Morrison, F.; Pawley, C.; and Ready, D. Post-Secondary Follow-up of Former Immersion Students in the Ottawa Area. Ottawa: Centre for Second Language Learning, University of Ottawa, 1986.

One of the purposes of this study was to gather baseline data on French proficiency, language-use patterns, and attitudes toward the French language of students who had been in early-immersion (EFI) or late-immersion (LFI) programs in the Ottawa-Carleton area and who were in their first year at one of the nearby universities. It was expected that the methods and instruments used in this pilot study could be useful in further longitudinal studies in the area and also in postsecondary studies elsewhere in Canada. Comparisons were made between students at four universities who had been in EFI (N=33) or LFI (N=48) and also between groups attending the two universities in Ottawa (total N=62).

The report also includes a proposal for a continuation of the postsecondary follow-up of the students in the group known as the K-71 cohort (having entered Kindergarten in 1971) and a later group, the K-74 cohort. A final section contains an overview of the French-language offerings of the four universities whose students were involved in the pilot study, with an indication of the plans they had made for accommodating incoming immersion graduates.

Tests of listening and reading comprehension were used, together with a cloze test and a test of vocabulary-in-context based on OAIP items for Francophones. All students also completed a self-assessment questionnaire and another questionnaire about

French-language use. Most of these tests had been developed at the University of Ottawa Centre for Second Language Learning. In addition, 55 students were tested individually using an interview type of speaking test which had been developed and used earlier at the Ottawa Board of Education Research Centre.

Analysis of variance showed that significant differences favouring the early- over the late-immersion samples were found on the listening subtest and on all speaking tasks. On the self-assessment measures of listening and reading proficiency differences approached significance (p 0.07). There were no significant differences between the late- and early-immersion groups on the reading, vocabulary and cloze tests. In the comparisons of students at the University of Ottawa and Carleton University, significant differences were found on the speaking test and on the self-assessment measures.

WIGHTMAN, M. *The French Immersion Student in Europe. An Informal Report of the Experiences of Several Young Canadians*. Research Report 80-03. Ottawa: Ottawa Board of Education Research Centre, 1980.

This was an informal study with a sample consisting of 35 students in Grades 1 through 13 from the Ottawa area. About half had gone from an early French immersion (EFI) program to a French-language school in Europe; the rest had had a different background in French or had gone to French schools in Quebec or to schools using a language other than French or English. The parents of the students, 19 Ottawa elementary-school principals, and teachers in both Canada and abroad were contacted.

Students from EFI programs found their language skills to be inadequate when they entered the French school abroad, experiencing some problems in comprehension and greater difficulty in speaking. However, these students made rapid gains in French language skills, usually feeling at ease in about three months, while other students had more difficulty. The younger students appeared to have more success than older ones in gaining a native-like accent and fluency, but younger children appeared to experience more initial discomfort with their new situation.

V. PREDICTORS OF SUCCESS AND TRANSFER PROCEDURES

Annotated Bibliography

ADIV, E. Survey of Students Switching out of Immersion and Post-Immersion Programs. Montreal: Protestant School Board of Greater Montreal, 1979b.
ED225371

Questionnaires were distributed in the spring of 1979 to 222 students who had switched out of postimmersion classes in the Montreal area. They were asked for some background data, for ratings of the courses taken in their last year of immersion or postimmersion in terms of interest, difficulty, and amount of work demanded, as well as for their reasons for leaving the program. Generally, reasons given for switching out of post-immersion programs were either the demands made or low marks achieved. However, the predominant course rating was average and the author suggests that students did not find the courses interesting enough to warrant the amount of work demanded.

BONYUN, R.; Morrison, F.; and Unitt, J. When Primary Pupils Transfer Out of French Immersion. Research Report 86-06. Ottawa: Ottawa Board of Education Research Centre, 1986.

A study was undertaken of children who had left immersion before the end of Grade 3, representing from 5 to 10 per cent of the immersion enrolment in these grades. Questionnaires were completed by parents and teachers and interviews were held with principals of the schools involved. Parents said that at the time of transfer the children were having difficulty in immersion and exhibiting a negative attitude toward school, but most saw a significant improvement in academic progress and attitude after the child's transfer. Respondents from all groups mentioned as important aspects of the adjustment process during and after transfer the need for placement of the child at an appropriate grade level, the provision of emotional and academic support, as well as assistance in overcoming a lack of self-confidence and a feeling of having failed.

BRUCK, M. "Predictors of Transfer Out of Early French Immersion Programs". Applied Psycholinguistics 6 (1985a), pp. 39-61.

The study examined the factors that best predict which elementary school children will ultimately transfer out of a French-immersion program at the end of one school year. French-immersion teachers nominated poor-achieving students who might transfer to an English stream and who may elect not to leave the program. All of the children were immediately tested and parents and teachers were interviewed. The status of the project children was monitored over the next year to determine which children transferred to an English stream. Analysis of the pretransfer data indicated that although cognitive-academic variables may be necessary conditions for transfer, they are not sufficient conditions. Specifically, while the children who transferred experienced academic problems, these were no more severe than those of children who did not transfer. Rather, the transfer children were unique in terms of their poorer attitudes, motivations, and non-academic behaviours. This pattern of results was found for the teacher, parent, and child data. The analyses suggest that attitudinal and motivational factors are of primary importance to the continuation of second-language study by young learners.

BRUCK, M. "Consequences of Transfer Out of Early French Immersion Programs". Applied Psycholinguistics 6 (1985b), pp. 101-120.

Former French-immersion (FI) students who had transferred to an English program because of academic difficulty and poor adjustment were assessed after their first year of total English education. Their cognitive, academic, linguistic, and social/psychological status was compared to that of children who had remained in the immersion program despite academic difficulty. The sample consisted of 74 low-achieving children in FI programs in Grades 2, 3, and 4, 30 of whom transferred to an English program in the following year. Data were collected when the children were originally identified and after the transfer group had been in the English program for a year.

Both teacher ratings of academic status and standardized achievement test results showed general improvement, whether the child transferred or not. According to the teacher ratings and children's self-report, the negative attitudes toward school and inappropriate school behaviour which characterized the transfer children more than the control children continued after transfer. The results indicate that there were few direct consequences of transfer on the children's attitudes and behaviour. However, it appeared that the parents' own perceptions of the importance of second-language learning had changed as a consequence of transfer and they felt that their children's attitude toward school had improved after the change.

BRUCK, M. "The Suitability of Early French Immersion Programs for the Language-Disabled Child". Canadian Journal of Education 3, no. 4 (1978), pp. 51-72.
EJ264473

Over a six-year period, children attending French immersion and English Kindergarten were screened at the beginning of the year to identify children with language impairments and control groups matched on age, sex, teacher, and father's occupation. The cognitive, academic, first and second language abilities of these children were assessed in Kindergarten and Grade 1.

Children with diagnosed language disabilities were identified in both English and French-immersion Kindergartens. A battery of tests of achievement and of aptitude in both first and second languages was given to these children and to control groups each year to the end of Grade 3. After two years of instruction, French language skills were improving, but not comparably to non-language-impaired students. In terms of linguistic abilities the children with language impairment in the French-immersion class remained similar to those in the English class. Children with problems seemed to benefit from the FI experience and to progress in English as well as similar children in the English program. By Grade 3 they performed on a test of listening comprehension at a similar level to that of the other FI group.

CUMMINS, J. "Should the Child who is Experiencing Difficulties in Early Immersion be Switched to the Regular English Program? A Reinterpretation of Trites' Data". Canadian Modern Language Review 36 (October 1979), pp. 139-143.

This article examines the statistical analysis presented by Trites and Price (1978) and contends that the data in this cross-validation study suggest that students who transferred to an English program fell further behind in English reading skills than those who remained in immersion in spite of difficulties. He also points out that some of the analyses failed to take into account the fact that some of the children who transferred were placed at a lower level than would be expected on the basis of their ages. He emphasizes, however, that in cases where children encounter difficulty in French immersion, each individual case must be judged on its merits.

In his reply, Trites does not mention specifically the issue of grade placement, but he disagrees with Cummins's claims that he over-interpreted non-significant differences, failed to take account of regression to the mean, and used percentile ranks in reporting gain scores.

EDWARDS, H. "Evaluation of the French Immersion Program Offered by the Ottawa Roman Catholic Separate School Board". Canadian Modern Language Review 33 (November 1976), pp. 137-150. EJ150321.

Two immersion programs are evaluated: one from Kindergarten to the end of Grade 5 (50 per cent French in Kindergarten and Grades 4 and 5; only religion in Grade 1, and language arts in Grades 2 and 3 in English) and a one-year program in Grade 7. These are compared with core or extended French at the same grade levels. With respect to group averages, the English language achievement of students in all programs has been similar, as measured by standardized tests. Group results on three measures used to investigate the possibility of learning difficulties showed no evidence of any greater tendency for the immersion children toward such difficulties at any grade level. Measures used to assess language skills in French showed a large and statistically significant difference in favour of the immersion group. By Grade 5 the immersion children can communicate without difficulty in the French language, but the author warns that the children should not be considered to be 'perfectly bilingual'.

Comments of guest analysts (Carroll, Burstall, Rivers). Dr. Carroll asked for an explanation of the considerable variation among individual classes and whether results were available for immersion classes explicitly identified as being of low SES. He pointed out that the best interpretation for the immersion success is that the language is being used instrumentally or in a truly communicative situation, and agreed that any lag is small and temporary, so that one is getting "two languages for the price of one".

Dr. Burstall also pointed out that the immersion groups tend to consist of middle-class children, with supportive parents, and asked whether the programs would have similar effects if they were extended to children of a wider range of age, ability, and SES. She suggested that, in view of evidence concerning the superior efficiency of the older learner, a systematic investigation should be made of alternative programs in the post-primary years.

Dr. Rivers wondered about the report that teachers preferred "a formal concept of language learning with increased stress on traditional methods rather than on the audio-lingual approach". She felt that there was an urgent need to think rather deeply about what constitutes an appropriate teaching approach in the early grades for developing communicative skill.

Dr. Edwards said that he believes that we can conclude that early immersion is a viable option which provides a functional use of the second language and which also appears to be fully compatible with the elementary curriculum objectives for at least a majority of the children. He stated that the issue of what aspects of subject matter are to be introduced early and which should be delayed does not appear to have a clear answer as yet.

GENESEE, F. "The Role of Intelligence in Second Language Learning". Language Learning 26, no. 2 (1976), pp. 267-280.

Sample groups (N=11 to 29) of students in French immersion and French as a second language in Grades 4, 7, and 11 were evaluated on French language tests. At all levels there were statistically significant differences between students with above and below average IQ's in reading, language usage and mathematics, but not on measures of listening comprehension, grammar, vocabulary and communicativeness. It therefore appeared that students with low academic abilities are likely to benefit if the program relates to the acquisition of interpersonal communication skills.

LEWIS, C. *Secondary French Immersion: A Comparison of Those Students Who Leave the Program and Those Who Stay*. M.A. Thesis submitted to Simon Fraser University. Vancouver: Simon Fraser University Faculty of Education, 1986.

A questionnaire survey obtained responses from 84 students who had left the secondary immersion program in four districts in the lower mainland region of British Columbia where the program had been under way for at least four years. The most significant factors in the decision to leave the program were dissatisfaction with the quality of instruction, the content of the courses, and the degree of difficulty, together with the notion that better marks would be obtained in the English program.

MORRISON, F.; Martin, J.L.; and Martin, J.C. *A Study of the General Development of Children who Entered a French Immersion Program in 1971*. Research Report 78-04. Ottawa: Ottawa Board of Education Research Centre, 1978.
ON01719

Of 354 students who entered French immersion (FI) and English Kindergartens in Ottawa schools in 1971, 123 matched on sex and starter schools were compared on data from a battery of tests. The overall development of low-performing students who remained in FI and of students who transferred to the English program, as measured by the tests used, was similar to that of groups of satisfactorily- and low-performing groups in the English program. There was little evidence of a detrimental effect from the FI experience on the part of those who transferred and the results of the study did not identify specific characteristics which were consistently associated with low performance in FI. Among the tests used were *Raven's Progressive Matrices*, *Tactual Performance Test*, and several measures of attitude, classroom behaviour, language skills and speech development, many of which had been used by Trites in his 1976 studies.

[SEE also Trites and Price, 1976.]

MORRISON, F., and Pawley, C. *French Proficiency of Immersion Students at the Grade 12 Level*. Eleventh Annual Report to the Ministry of Education, Part I. Toronto: Ontario Ministry of Education, 1986.

Students who had entered Kindergarten in 1971 (the K-71 cohort) and who were completing Grade 12 in immersion programs in Ottawa and Carleton were tested in the spring of 1984. The late-entry (LFI) group (N=69) had completed from 3000 to 4000 hours of instruction in French, while the cumulative amount of time in French averaged from 6500 to 7000 hours for the early-entry (EFI) groups (N=71). On two tests of French proficiency taken at the University of Ottawa no significant differences were found between the EFI and LFI groups. Over 90 per cent of the total group obtained scores on one of these tests which were high enough to excuse them from the required French language course at the University of Ottawa. The Grade 12 mean scores on another test were considerably higher than the post-test means of a group of Anglophone students who had just completed a 'sheltered' course in psychology taught in French. On a third test administered in 1984, an individual speaking test designed to examine fluency and communicative competence, the mean scores of the EFI group were found to be significantly higher than those of the LFI students. A regression analysis showed that a combination of several measures of French proficiency obtained in Grades 8 and 10 could lead to a multiple correlation of about 0.70 with two of the criterion tests taken by Grade 12 students at the University of Ottawa. (see Table 3 in Appendix B).

MORRISON, F.; Pawley, C.; and Bonyun, R. Reasons for Transfer from Immersion and Bilingual Programs, Grades 8 and 12. Working Paper 132. Ottawa: Ottawa Board of Education Research Centre, 1979.

Questionnaires were sent to 177 students in a regular Grade 9 program who had been in late-entry immersion in Grade 6, 7 or 8, nearly all of whom were taking some form of French course in Grade 9; 136 (or 77 per cent) of the students responded. A concern for marks and for the possible difficulty of taking high school courses in French were most often the factors which had influenced their decision to leave a bilingual program. About one in four also indicated that a major factor in their decision was some characteristic of the high school where the bilingual program was offered and somewhat fewer indicated that they had had some difficulty with French or conflicts with teachers. A similar questionnaire answered by 42 Grade 12 students, representing 65 per cent of those who had left the program, yielded similar results; concern for marks and for course selection were of greatest influence, followed by dissatisfaction with the teaching or the program.

PAWLEY, C., and Walsh, M. French Proficiency and General Achievement of Grade 8 Students in Primary- and Late-entry Immersion. Working Papers 135 and 135a. Ottawa: Ottawa Board of Education Research Centre, 1980.
ON03025

In the spring of 1980 tests of French proficiency and of general achievement were taken by Grade 8 students in early- and late-entry immersion and by comparison groups at the same grade level in Ottawa and Carleton schools. On three measures of French reading and writing, the early-entry groups in both boards had higher mean scores after adjustment for differences in aptitude. When the achievement test scores were also adjusted for aptitude, it was found that the immersion groups scored at least as well as or better than the comparison group in the same board.

SUDERMANN, M. Early Identification of Learning Needs. Research Report 81-03. Ottawa: Ottawa Board of Education Research Centre, 1981.
ON02088

The purpose of this study was to examine the predictive validity of a locally-developed Kindergarten teacher screening procedure with respect to students' first-grade achievement, and to compare possible predictors of difficulty in French immersion. A sample of five-year-old children in French immersion (N=135) and in the regular English program (N=162) were tested in Kindergarten and again at the end of Grade 1. The correlations of the Metropolitan Readiness Test (MRT) with Grade 1 reading in English or French, respectively, were 0.67 and 0.57. Other predictive measures used had correlations of 0.32 to 0.56 with Grade 1 reading. Correlations between MRT subtest scores and reading achievement tended to be lower for FI students, whose range of scores was less. It was concluded that similar procedures appear to be applicable for identifying special learning needs in French immersion and in the regular program.

TOUROND, M.; Thorson, C.; Lokan, J.; and Hendelman, T. A Validation Study of the Checklist of French Immersion Kindergarten Teacher Observations. Research Report 77-03. Ottawa: Carleton and Ottawa Boards of Education, 1977.
ON01410

A self-made checklist was administered to Kindergarten students in the fall in order to identify students likely to have learning difficulties in French immersion (FI). At the end of the year the Gates MacGinitie Readiness Skills Test (GM) was given. For 13 classes tested in 1974-75 there was a simple correlation of total scores between the checklist and GM of 0.32 and a multiple correlation between the checklist subtests and GM total scores of 0.46. However, the checklist had lower correlations with achievement measures obtained at the end of Grade 1 (0.18 to 0.21) than did the GM test (r = 0.48 to 0.58). The main value of administering the checklist to FI students in the fall of the Kindergarten year was felt to be in developing greater awareness of students who might need special classroom programming.

TRITES, R., and Moretti, P. Assessment of Readiness for Primary French Immersion: Grades Four and Five Follow-up Assessment. Toronto: Ontario Ministry of Education, 1986.

The groups identified in earlier studies (see Trites and Price, 1980) were tested again in their sixth year of school, when about 80 were still in French immersion (FI) and a total of 34 had transferred to the English program. Another 80 had left the study, either because of moving out of the Ottawa area or withdrawal of permission to continue testing. Eight of the drop-outs and two of those in FI were in Grade 4, while the rest were in Grade 5 in the spring of 1983. The instruments used at the Grade 4 and 5 level included teacher rating scales, achievement tests, and a children's personality questionnaire.

A discriminant function analysis like that used in the Grade 1 follow-up study was carried out, comparing those who had remained in FI until the spring of 1983 with those who had transferred. Comparisons were also made between a group of 17 early drop-outs (before Grade 2) and 17 later drop-outs, and between these two groups and those who were identified as high or low achievers in FI. There continued to be relatively few significant differences between drop-outs and low achievers. At the Grade 5 level significant differences were found between drop-outs and the total group remaining in FI on most of the test scores (not corrected for IQ) and on several teacher ratings.

Differences between early and late drop-outs were found on family socio-economic status and on some personality variables. The discriminant function, based on 22 of the predictor variables from the battery of tests given at the end of five-yearold Kindergarten, differentiated significantly between the academic drop-outs at the end of Grade 5 and the total group remaining in FI, accounting for slightly less than half of the total variability of the function.

These additional analyses at the Grade 5 level allowed the comparison of early and late drop-outs, but the inclusions of the high achievers in FI in some of the analyses seems inappropriate. In some cases the groups themselves were also too small for such detailed analyses.

This report and earlier ones contain much information which could help other investigators to focus attention on specific problems and to cross-validate some of the findings, but the much-sought answers to the question as to whether specific children should be enrolled in early immersion are not here.

TRITES, R., and Price, M. Assessment of Readiness for Primary French Immersion: Grade One Follow-up Assessment. Toronto, Ontario Ministry of Education, 1980.
ON01651

A random sample of 200 of the 450 children in four-year-old Kindergarten whose parents indicated an intention to enrol them in the French immersion (FI) program was chosen for intensive study during the 1976-77 school year. These children were given a battery of tests in the spring of 1977 and additional measures at the end of five-year-old Kindergarten (1978) and Grade 1 (1979). Parents and teachers were asked at each testing to answer detailed questionnaires concerning each child. The main comparisons were made between the group of 124 children who remained in the FI program to the end of Grade 1 and 25 children who transferred to the English programs (called drop-outs); of the latter group 19 transferred before entering Grade 1 and 4 more had transferred by October. It was stated that 17 of the 25 children dropped out of FI because they encountered academic difficulties, based largely on parental reports. This subgroup was compared with groups of low achievers (lowest quartile) and high achievers (highest quartile) o[illegible] French listening comprehension test given in Grade 1.

Since there were significant IQ differences between the group remaining in FI and the drop-outs, an analysis of covariance was carried out, using the Wechsler Full-Scale IQ as covariate. Significant differences remained on four measures of aspects of school readiness (CIRCUS) and on a measure of speed of response on the Tactual Performance Test (TPT). Similar comparisons at the Grade 1 level are affected by the difference in programs followed; as would be expected, those who transferred made better progress in English language skills during Grade 1 while those who remained obtained higher French proficiency scores.

In terms of general functioning level at the end of Grade 1, a smaller proportion of the drop-outs than of the low achievers in FI were said to be ready for Grade 2; however, ratings by teachers were available for only 11 of the 17 'academic' drop-outs.

A discriminant function analysis showed that a combination of 16 variables significantly separated these two groups; English-grammar and information scores, picture-naming in French, and ratings of amount of speech and effort contributed most to this function, although these variables taken individually did not show significant differences between the groups. On 7 of the 16 variables, including IQ, TPT memory, and two readiness variables, the means were higher for the drop-out group, suggesting that 'academic' reasons may not have been major factors in the transfer of these five- or six-year-old children from the FI program in Kindergarten and before the end of Grade 1. The report provides a great deal of information about the subgroups described, including multiple regression analysis examining the predictive validity of the battery with respect to several criterion variables. However, it does not identify a practicable battery for prediction of success in the first year or two of the FI program.

TRITES, R., and Price, M. Learning Disabilities Found in Association with French Immersion Programming: A Cross Validation. Toronto: Ontario Ministry of Education, 1977. ON00647

After an earlier study involving clinic referral cases (Trites and Price, 1976) had suggested that children who had problems in a French-immersion (FI) program appeared to differ from children with other types of learning difficulty, a study was carried out involving 16 children who had left the primary FI program for academic reasons (not clearly specified) and a group which had continued in the program. Half of the children in the transfer group had left the program at the beginning of or during Grade 1 and the rest during Grade 2. The two groups were matched for age and sex and for Kindergarten FI class attended. An extensive battery of tests was used, including several measures of academic ability and of reading or pre-reading skills, and instruments intended to measure various aspects of behaviour were completed by teachers and parents. Most of the measures had been used in the earlier study, including a psychomotor problem-solving task known as the Tactual Performance Test (TPT).

A total of over 50 variables was available for the extensive analyses which were carried out, consisting mainly of studies of correlational relationships (including a factor-analysis-like procedure known as cluster analysis) and of comparisons of group means. Since early results showed a significant difference in IQ between the two groups being examined, an analysis of covariance was carried out, using the Wechsler Full-Scale IQ as covariate.

After the cluster analysis reduced the number of variables which appeared to discriminate between drop-outs and controls, the analysis of covariance, by removing the influence of IQ differences, showed that differences between the groups consisted of poor behaviour as rated by parents and by poorer performance by the transfer group on several reading tests, which were part of the oral reading and reading comprehension sections of the Doehring Battery of Reading Skills. The nature of the specific tests is not made clear and their relationship to reading instruction and procedures in Grades 1 and 2 in English and French needs to be assessed.

Although the TPT results did not show differences between the two main groups, further analysis with the two groups of 9 children who were under nine years of age at the time of testing showed significant differences in favour of the matched group (which had remained in FI) on six of the 18 comparisons which were made. All but one of these six comparisons involved measures of time required to complete the task and were likely to have been highly correlated with each other. This result provides a very tenuous basis for an interpretation which ascribes a maturational lag in temporal lobe regions to children who are unsuccessful in FI for unspecified 'academic' reasons.

TRITES, R., and Price, M. Learning Disabilities Found in Association with French Immersion Programming. Toronto: Ontario Ministry of Education, 1976.
ON00101

Available data were analysed for the purpose of comparing 32 children who had experienced difficulty in primary French immersion (PFI) with seven other groups of children matched for age, sex, wide variety of language, perceptual, academic achievement, memory, motor, sensory and other tests to determine if there was anything unique in the profile of this group. The comparison groups included three groups in which language was a factor and four 'non-language' groups: hyperactive, minimal brain dysfunction, social and emotional maladjustment and primary reading disability.

Using discriminant function statistics, the children were correctly classified in their proper groups at a significant level. The author concluded that there was something unique in the neuro-psychological profile of the children who experienced difficulty in PFI and that there was a specific syndrome of subskill deficits in children who do poorly in this program in spite of above-average intelligence. Other significant findings included the fact that a diagnosis of hyperactivity does not contra-indicate enrolment in PFI, since some hyperactive children were doing well.

[SEE also Trites and Price, 1977 for a cross-validation study.]

WIGHTMAN, M.; Kirby, D.; and Tuong, T. Factors Associated with Success in Intermediate French Immersion and Extended French Programs. Research Report 77-17. Ottawa: Ottawa Board of Education Research Centre, 1977.
ON01493

Batteries of self-made and standardized tests were administered to incoming students in three programs at the Grade 7 level; the sample consisted of 146 students at three schools in an 80 per cent immersion program, 50 students in two schools in a 50 per cent bilingual program, and 95 at two schools in an extended French program. The tests included measures of attitudes, intellectual ability, language learning ability, French language proficiency, and academic achievement in subjects taught in French. In all three programs, the best predictors of end-of-year scores were measures of mental ability and a French vocabulary test.

Additional References

CUMMINS J. *Bilingualism and Special Education: Issues in Assessment and Pedagogy*. Clevedon, England: Multilingual Matters, 1984, pp. 152-180.

MORRISON, F.; Pawley, C.; Bonyun, R.; and Unitt, J. *Aspects of French Immersion at the Primary and Secondary Level in the Ottawa and Carleton Area*. Twelfth Annual Report to the Ministry of Education. Toronto: Ontario Ministry of Education, 1986.

PAWLEY, C.; Bonyun, R.; and Lochnan, N. *Core French and Immersion Programs in Ottawa and Carleton Boards, 1971-77*. Working Paper 114. Ottawa: Ottawa Board of Education Research Centre, 1978.

VI. PEDAGOGICAL AND ADMINISTRATIVE ISSUES

Annotated Bibliography

BIALYSTOK, E., and Fröhlich, M. Aspects of Second Language Learning in Classroom Settings. Working Papers on Bilingualism 13 (1977), pp. 1-26. Toronto: Ontario Institute for Studies in Education.

A second-language learning model is presented in terms of relevant learner characteristics and learning strategies. One study used a measure of aspects of attitude and motivation, a language aptitude test, questionnaire responses about learning strategies, and a reading test with two class groups at the Grade 9 and 10 level, in order to investigate the validity of the model.

Certain strategies, such as monitoring language output and making inferences about the unfamiliar language, appeared to be related to reading achievement. A second study examined the effect of supplementary information in improving the comprehension of a reading passage; the results showed that both a brief overview in English and a relevant picture or diagram increased comprehension.

BIALYSTOK, E., and Howard, J. Inferencing as an Aspect of Cloze Test Performance. Working Papers on Bilingualism 17 (1979), pp. 24-36. Toronto: Ontario Institute of Studies in Education.

Four groups of high school students learning French as a second language completed sets of cloze passages under four treatment conditions. Three conditions provided a potential cue to inferencing, while the fourth was a control condition. The results indicated differences in performance attributable to the position of the story in the set of passages and the inferencing treatment condition. Certain inferencing cues, such as picture cues and a lesson on inferencing, can have a facilitating effect on students' cloze performance while the dictionary cue impeded it. The results show that it is possible to encourage students' inferencing behaviour through classroom training, thereby improving cloze performance.

BURNS, G. "French Immersion Implementation in Ontario: Some Theoretical, Policy and Applied Issues". Canadian Modern Language Review 42 (January 1986), pp. 572-591.

This article presents the point of view that immersion education is a complex innovation whose implementation has not been directly studied and questions the relevance of achievement data in measuring the effectiveness of this innovation. It discusses a study which examined the extent to which inequality exists in immersion and the nature of implementation problems and practices. Questionnaires were directed to parents, immersion teachers and other teachers in the same schools, principals and teachers in schools not having immersion, consultants to immersion programs and Francophone teachers and principals. Response rates for the different sets of questionnaires ranged from a high of 100 per cent in 7 of the 34 responding boards (out of 49 offering immersion programs) to 40 per cent in one system, while some additional boards completed only the consultant's questionnaire. No indication of the representativeness of the respondent group is given and no details of the responses are provided in the article.

The discussion suggests that the findings indicate that immersion in Ontario tends to be social-class biased as a result of public policies which favour entry to and success in the program among children who are initially more privileged. The responses are also said to indicate that most immersion programs are adopted on an ad hoc basis and in reaction to strong political lobbies, rather than on the basis of clear understanding of the characteristics and the implications of such programs. The article concludes with emphasis on the need to offer programs suited to the needs of all children who enrol and to provide support to local boards with respect to both curriculum guidelines and in-service education.

CHAUDRON, C. Teachers' Priorities in Correcting Learners' Errors in French Immersion Classes. Working Papers in Bilingualism 12 (January 1977), pp. 21-44. Toronto: Ontario Institute for Studies in Education.
ED135232.

This pilot study of classroom interaction in immersion classes at the Grade 8 and 9 level used analysis of tape recordings to determine how much and in what way students' linguistic errors were corrected in French and other-subject classes. All three teachers involved in the study showed that their practice was consistent with their belief that linguistic errors should not be corrected when teaching other subjects except when they interfered with comprehension. The author suggests there is a need for more attention to methods of classifying errors and to appropriate strategies for correcting errors.

CZIKO, G. "The Effects of Language Sequencing on the Development of Bilingual Reading Skills". Canadian Modern Language Review 32 (May 1976), pp. 534-539.

English and French reading skills were compared for groups of children at the Grade 4 level who had followed a French-immersion program since Kindergarten and another group who had begun an immersion program at the Grade 4 level. The English test was a widely-used standardized test of reading comprehension while the test of French reading ability was adapted from one originally developed for Grade 7 French-as-a-second-language students. The groups were equated in terms of age and class size; two control groups were used, one from the English program and one group for whom all schooling had been in French.

The group which started immersion in Grade 4 did as well on the French reading test as the early-immersion group, although it had had only one year of French reading instruction. In addition the former early-immersion students did not differ significantly from the Francophones on the French reading test. Moreover, neither the early nor the later (Grade 4) French program had detrimental effects on the development of English reading skills. The researcher concluded that neither program is clearly superior in fostering bilingual reading skills and feels that further research is needed to isolate the effects of the sequencing and timing of second-language reading instruction.

DAY, E., and Shapson, S. Elementary French Immersion Programs in British Columbia: A Survey of Administrators, Teachers, and Parents (Summary of Findings). Burnaby, B.C.: Faculty of Education, Simon Fraser University, 1983.

Respondents to this provincial survey were highly positive about the immersion program, which had expanded greatly over the previous ten years. However, they also provided constructive suggestions for improvement, particularly in the area of curriculum development, methodology and in-service training.

EDWARDS, H.; Colletta, S.; Fu, L.; McCarrey, H.; and McLaughlin, M. Evaluation of the Federally and Provincially Funded Extensions of the Second Language Programs in the Schools of the Ottawa Roman Catholic Separate School Board. Annual Report, 1977-78. Ottawa: University of Ottawa, 1979.
ON01052

Classroom observations in Grades 7 and 8 showed that teacher praise substantially outweighed criticism in second-language classes. The immersion students used English more than the extended-core students during French-language instruction and also showed a better ratio of student interaction related to work as opposed to chatter. Inattentive students were more often observed in the extended-core than in immersion classes. French proficiency results were summarized in a later report.

[SEE also Edwards, Colletta, and McCarrey, 1980.]

EDWARDS, H.; Wesche, M.; Krashen, S.; Clément, R.; and Kruidenier, B. "Second-language Acquisition through Subject-matter Learning: A Study of Sheltered Psychology Classes at the University of Ottawa". Canadian Modern Language Review 41 (November 1984), pp. 268-282.
EJ315457

In this experiment on second-language acquisition via subject-matter teaching, university students, classified as being at a 'high intermediate' level of French-language proficiency followed a psychology course taught in their second language in special 'sheltered classes'. The results confirm that adult students can gain in second-language proficiency in the absence of formal language instruction when subject-matter instruction in the second language is made comprehensible. The students gained about as much as comparison subjects who studied the target language directly and they succeeded in learning the subject matter at least as well as students in regular sections of the course. In addition, the subject-matter students reported a gain in confidence in second-language use.

The role of the supplementary language teacher within the sheltered class appears to be important, but research is needed to help in determining what kinds of intervention are effective in this situation.

FU, L., and Edwards, H. Mathematics Achievement of English Program and French Immersion Pupils in Grades 3, 6, and 9. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, April 1984.
ON03078 ED243706

This study examined the mathematics achievement of English-speaking Grade 3 pupils in early French immersion and regular English programs, taking account of the language of instruction and the extent to which teachers reported use of a locally-developed curriculum document. General ability and mathematics pretest scores were used as covariates. French and English versions of locally-developed objectives-based mathematics tests were administered in October and May of the 1981-82 school year.

There were no significant differences between the mathematics posttest scores of the French-immersion and English groups. Overall, pupils whose teachers reported greater use of the curriculum document obtained higher posttest scores than those whose teachers reported lower use. However, the extent to which teachers reported use of the curriculum document was related to achievement only within the English program.

GAYLE, C. "Effective Second Language Teaching Styles". Canadian Modern Language Review 40 (May 1984), pp. 525-541.

The study examined the possibility that relationships between attitudes and/or aptitudes and second-language learning at the Grade 6 level may be differentially affected by specific second-language teaching styles. Teaching style refers to the patterns of various categories of pedagogical functions used by a teacher. The Language Teaching Record Scheme (LTRS) was used to code classroom interaction for a total of three random visits for each of fourteen teachers taken from an intensive program (extended). The cluster analysis technique used with these data yielded four distinct second-language teaching styles. Analyses of covariance indicated that the specific second-language teaching styles influenced the relationships between second-language learning and student attitudes or aptitudes. Significant interaction effects on listening-comprehension scores were found between specific styles and several variables (one attitude and three aptitude). Significant main effects were also found for distinct teaching styles in the same program.

HAMAYAN, E., and Tucker, G. Strategies of Communication Used by Native and Non-native Speakers of French. Working Papers on Bilingualism 17 (April 1979), pp. 83-96. Toronto: Ontario Institute for Studies in Education.

This study examines certain communication strategies used by Anglophone children learning French as a second language and by children whose mother tongue is French. Three groups of children at each of the third and fifth grades participated in the study: French native speakers, Anglophone children in an immersion setting, and Anglophone children in a French school (submersion). Children listened to a story and then were asked to retell it. The analysis was concerned with the extent to which five syntactic structures, such as indirect question, past participles, etc., were avoided. Results indicated that the extent to which avoidance occurred differed according to structure, grade level, and group. In addition, common strategies of avoidance, such as paraphrasing, could be identified.

IRELAND, D.; Gunnell, K.; and Santerre, L. A Study of the Teaching and Learning of Aural/Oral French in Immersion Classes (Preliminary Report). Ottawa: Ontario Institute for Studies in Education, Ottawa Valley Centre, 1979.

During four months in the spring of 1979 five Francophone observers visited 40 immersion classrooms at regular intervals. About ten minutes of verbal interaction involving teacher and students was recorded, transcribed, and coded in terms of formal and functional types of teacher and student behaviour. The percentage of utterances in each category is presented by grade level from Kindergarten to Grade 6.

An average of 60 per cent of what the teachers said and 40 per cent of student talk in Grades 1 to 6 was judged to be functional, that is, to have a primary purpose other than instruction in French. In Kindergarten and to some extent in Grade 1 repetition and other structured activities, intended to increase listening comprehension and to encourage speaking, occupied a larger proportion of the time than at later grade levels.

This preliminary publication is part of a larger (unpublished) sequence which includes qualitative analyses as well as the quantitative data described above.

LAMBERT, W., and Tucker, G. *Bilingual Education of Children: the St. Lambert Experiment*. Rowley, Mass.: Newbury House Publishers, 1972.

This book describes the evaluation of the pilot class in the well-known St. Lambert immersion program. At the end of a five-year period there appeared to be no retardation in native language or cognitive development or in subject-matter achievement among the immersion students. Although the experimental group could not be classified as 'balanced' in their bilingual competence, it was felt that such a goal was achievable for these students. However, the writer said it was unreasonable to expect that the school program alone could provide sufficiently varied conditions for the development of balanced expressive fluency. There was some evidence that children in the immersion classes were less ethnocentric in their attitudes than those in the English control group and that they had developed confidence in their second-language ability. The importance of parental support was also emphasized.

LAPKIN, S.; Andrew, C.; Harley, B.; Swain, M.; and Kamin, J. "The Immersion Centre and the Dual-Track School: A Study of the Relationship between School Environment and Achievement in a French Immersion Program". *Canadian Journal of Education* 6, no. 3 (1981), pp. 68-90.

As a follow-up to an earlier study, a study was made of French proficiency and English achievement of students in classes in immersion centres and dual-track (English and immersion) schools in the Carleton Board of Education. A questionnaire survey of staff members in the seven schools offering immersion was also carried out. There were 111 immersion students in dual-track schools and 164 in immersion centres, together with control groups (N=142) in regular English classes.

On two of the four measures of French proficiency and on tests of English reading comprehension and vocabulary the Grade 5 students from immersion centres obtained significantly higher scores, after correction for differences in aptitude, than those in the dual-track schools. It appeared from the questionnaire responses that the immersion teachers in the immersion centres were in general better satisfied with the resources available and more favourable toward the immersion program than those in the dual-track schools.

MacNAB, G. *Who Chooses Primary-Entry Immersion and What It Means to the English Stream*. Research Report 78-11. Ottawa: Ottawa Board of Education Research Centre, 1978.
ON02084

Results of reading and arithmetic tests given in Grade 1 and in Grades 4 through 8 were examined for three cohorts of English program (EP) and early French immersion (EFI) students in the

Ottawa Board of Education for the period from 1973 to 1978. A questionnaire to EP teachers elicited information on their perceptions of the effects of FI on their classes.

It was found that on all tests except for the reading test given in Grade 1 the EFI subjects scored significantly higher than those from the EP. In addition, EP subjects in schools with FI out-performed those in schools without FI. There was evidence that FI draws off above-average students from EP classes, but this loss occurs mainly in schools which have a high proportion of above-average students.

MCDOUGALL, A., and Bruck, M. "English Reading within the French Immersion Program: A Comparison of the Effects of the Introduction of English Reading at Different Grade Levels". Language Learning 26 (June 1976), pp. 37-43.

A comparison of the effect on native-language skills of introducing English reading at Grade 2 and at Grade 3 was undertaken in French-immersion (FI) programs in Quebec. The sample consisted of six groups of 20 students each at the Grade 3 and 4 level, four groups in FI programs and two in English-only classes, with periods of English reading instruction varying from 2/3 of a year to 3 and 2/3 years. Individual testing with the Spache Diagnostic Reading Scales was done over two grade levels.

There was no significant difference in performance among the English-only students and the FI students beginning reading in Grade 2 and those beginning reading in English in Grade 3. No tendencies were found for different groups to make different types of mistakes or for mistakes of FI students to be attributable to interference from French. It appears that transfer of skills from one code to another is accelerated for those children who do not start English reading until Grade 3.

McGILLIVRAY, R. "School Systems Make it Work". Language and Society 12 (Winter 1984), pp. 26-29.

The article discusses problems associated with the introduction of French-immersion (FI) programs, including stretched budgets, lack of qualified staff, supervision of programs and staff in two languages, displacement of English-program children, and provision of transportation. Another serious challenge had been program development, but curriculum documents are now available from larger school boards, whose experienced teachers and consultants can also give workshops and short courses. The author felt that continuing in-service and program adaptation must ensue, and that additional grants may offset additional costs incurred for the start-up of FI centres.

NAGY, P., and Klaiman, R. Attitudes to and Impact of French Immersion. Presented at the Annual Meeting of the Canadian Educational Researchers Association, Winnipeg, June 1986. Toronto: Ontario Institute for Studies in Education.

This study was undertaken in a moderate-sized board (21 000 students) in southern Ontario to provide a plan of action for the French program, both core and immersion. The study involved public meetings, interviews, questionnaires and consultations. Start-up problems were identified as including staffing, teacher layoffs and opposition, program and curriculum, transportation and location. Generally, attitudes were positive. Parents of children not in immersion wanted a strengthened core program and most accepted immersion as a method of education. Fewer students were enrolled in rural areas, probably due to distance.

OBADIA, A. "The Teachers, Key to the Success Story". Language and Society 12 (Winter 1984), pp. 15-19.

A survey of French-immersion teachers across Canada, with data from 400 completed questionnaires, indicated that 73 per cent were Francophone, 20 per cent Anglophone, and 5 per cent belonged to other language groups, with 2 per cent claiming equal proficiency in both official languages. Somewhat less than half (44 per cent) of the immersion teachers had taken their professional training in French, while equal proportions of the others had taken it in English or in both languages. The program appears to attract teachers who have taught in other fields. At the time of the survey 80 per cent of the respondents were teaching all day in French to pupils who began immersion between Kindergarten and Grade 3.

The author points out the need for a fully-rounded teacher who has received general and specialized training and who is not simply a language teacher. One or more specialized courses for immersion teachers are offered in 36 per cent of the faculties of education in Canada; the time spent on practice teaching varied from 1 week to 6 months in immersion classes, either as part of a traditional training year or as additional periods. Included is a brief overview of course offerings for immersion teachers at Simon Fraser University.

OLSON, C., and Burns, G. "Politics, Class and Happenstance: French Immersion in a Canadian Context". Interchange 14, no. 1 (1983), pp. 1-16.

[SEE Burns, 1986.]

OLSON, C., and Burns, G. "Immersed for Change: Politics and Planning in French Immersion". Les Nouvelles de l'ACPI/CAIT News 5 (June 1982), pp. 12-16.

The researchers undertook a study of social and implementation factors related to French immersion (FI) in eight northern Ontario boards. Details are given concerning parental response to questions about reasons for enrolling their child in the program (number of respondents and response rate not given); reasons given by over 80 per cent included the hope of better access to jobs and belief that mastery of a second language is an important part of education. A similar proportion felt that French immersion is the best way for English-speaking children to become truly bilingual, while 57 per cent agreed with the statement that FI aids in bringing the French and the English together.

Some data obtained in one board indicated that the IQ levels of French-immersion classes tended to increase with grade level (N=14 in the lead class at the Grade 5 level), while teachers (N not given) in the study generally denied that they tracked out children for behaviour problems or because they were slow learners. Implications of the selective nature of the program are discussed at some length, along with the reactions of the Anglophone teachers and a sample of Francophones who participated in the questionnaire study.

PARKIN, M. But Do They Speak French? A Comparison of French-Immersion Programs in Immersion-Only and in Immersion-English Settings. Research Report 79-01. Ottawa: Ottawa Board of Education Research Centre, 1979.
ON01911

About 200 students from Ottawa French-immersion classes at the Grade 3 and 4 level in dual-track schools (French-immersion and English programs) and a similar number at the same grade level from immersion-only schools participated in a small-group cooperative activity which required them to work and talk together on two occasions independent of teacher supervision. Segments of tape-recorded conversation were coded to indicate the language being spoken. Differences between grade levels or type of school did not show statistical significance. Differences between classes were significant but appeared to be specific to the situation (a substitute teacher in one case and a change of schedule in another). Teachers showed a preference for immersion centres, although most of those in dual-track schools expressed satisfaction with their work situation.

RICHER, S., and Andrews, F. "French Immersion and Classroom Behaviour". *Canadian Journal of Sociology* 8 (1982), pp. 377-393.

This study examines the effect of an immersion program in Kindergarten on classroom social behaviour and structures, the hypotheses being that immersion children would exhibit lower rates of deviance and a higher level of cohesion than a comparable group of children in regular English classes. Three regular Kindergarten classes and three French-immersion classes in a suburban Ottawa Anglophone community were observed on 38 occasions, using a modified Flanders interaction profile and the Jackson and Hudgins attentiveness schedule.

There was close similarity between the two types of classes with respect to teacher-student interaction in formal teaching sessions, free play and independent work periods. The data from formal sessions only indicated higher deviance in French-immersion classes as measured by attentiveness and acts of physical contact, suggesting boredom and restlessness. Pre-Christmas data revealed no differences in measures of cohesion, while post-Christmas data showed significant differences, with the immersion class showing a higher total cohesion score. The researchers had some reservations about the measures used and felt that further research is needed with respect to the effect of the immersion setting on children's behaviour.

STANLEY, M. "French Immersion Programs: The Experience of the Protestant School Board of Greater Montreal". *Canadian Modern Language Review* 31 (November 1974), pp. 152-160. EJ109482

This article describes early and late (Grade 7) French-immersion programs introduced in the Montreal area. The advantages and disadvantages of both and considerations of class size, staffing, program, and costs are discussed. On the basis of the performance of the 260 'superior' students who were then in Grade 10 it appeared that the objective of 'functioning adequately in French' was being realized.

STEVENS, F. *Strategies in Second Language Acquisition*. Montreal: Eden Press, 1984.

This study of the language acquisition strategies of students with one to six years of French-immersion experience focused on word order, verb use, and gender and involved both elicited response tasks and samples of naturalistic speech. Some differences found seemed to be attributable to differences in cognitive maturity. Other results suggested applications for the reorganization of classroom procedures, including the importance of an activity-centred program and ways of helping children discover linguistic rules.

SWAIN, M., and Barik, H. "The Role of Curricular Approach, Rural-Urban Background, and Socio-economic Status in Second Language Learning: The Cornwall Area Study". Alberta Journal of Educational Research 24 (March 1978), pp. 1-16.

This presents the results of the evaluation of a bilingual education program operating at the Kindergarten level in Cornwall (Ontario) and surrounding regions, and of a follow-up 40-minute-a-day French option program (evaluated in Grade 2). There were no reliable differences between pupils following the half-day and those following the full-day program with respect to curricular approach, locale and socio-economic status.

UNITT, J., and MacNab, G. The Effect of French Immersion on Class Size and Class-Grade Combinations in Carleton Board of Education Schools. Research Report 77-02. Ottawa: Ottawa Board of Education Research Centre, 1977.

Data on class size and grade combinations in French-immersion (FI) and regular programs, as well as information about sending school for FI students, were obtained from principals' reports in the Carleton Board of Education planning office. It was found that class size, especially in English programs (EP), tended to be larger in later grades. From 1973 to 1976 the EP class size experienced little change, while the mean class size in FI increased from 22.2 to 25.6. During the same period, the class size in Grades 7 and 8 increased from 31.6 to 34.0 in EP and from 24.1 to 33.1 in FI. Small schools (fewer than 160 students) were most affected by FI with respect to school and class size (see also Research Report 77-01 for similar data from the Ottawa Board of Education).

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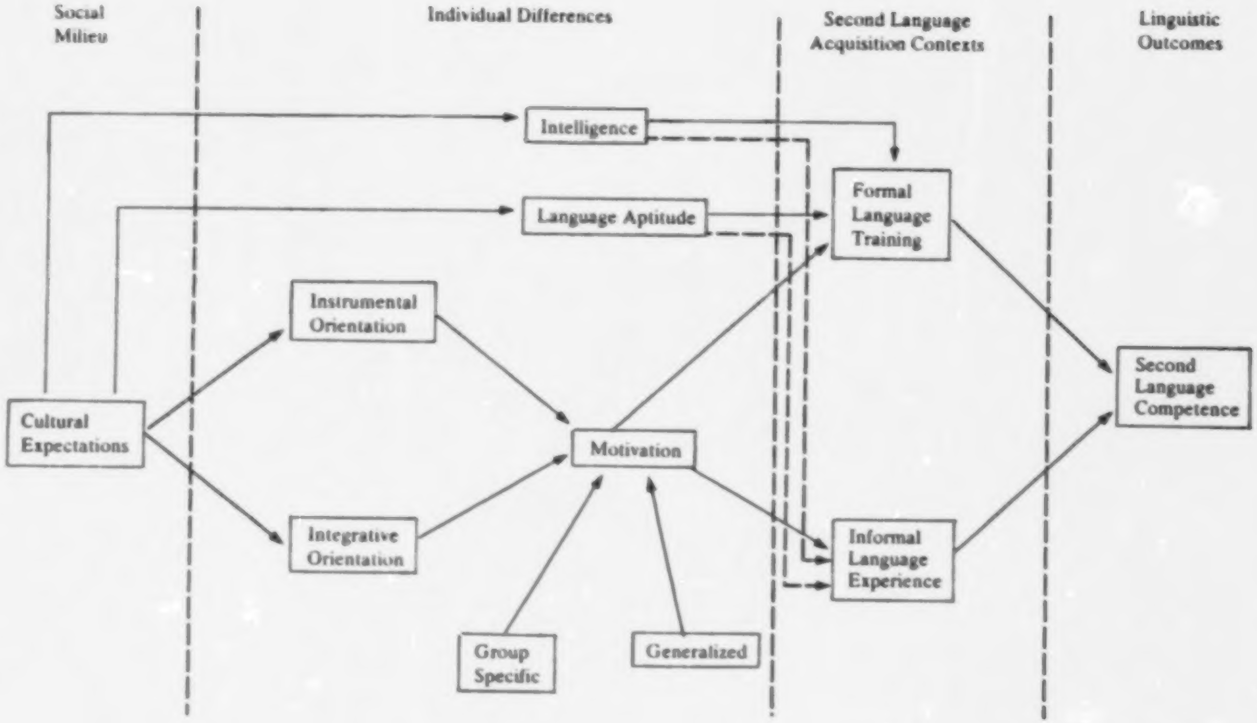
APPENDIX B

TABLES AND FIGURES

FIGURE 1

SCHEMATIC REPRESENTATION OF EDWARDS' THEORETICAL MODEL
(FROM GARDNER *ET AL.* 1974; ADAPTED FROM SCHUMANN)



Source: Edwards, H. Psychological and Social Psychological Factors Influencing Second-Language Acquisition. Canadian Modern Language Review, 36 (March 1980), p. 482.

TABLE 1

TIME SPENT IN FRENCH BY STUDENTS IN IMMERSION PROGRAMS IN OTTAWA AND CARLETON, 1983-84

Grade	Ottawa Early-entry		Ottawa Late-entry		Carleton Early-entry		Carleton Late-entry	
	% in Fr.	Cum. hrs.	% in Fr.	Cum. hrs.	% in Fr.	Cum. hrs.	% in Fr.	Cum. hrs.
K	100	450	20	90	100	450	10	40
1	100	1350	14	220	100	1350	7	100
2	80	2070	14	340	80	2070	7	160
3	80	2790	14	470	80	2790	7	220
4	80	3510	14	590	75	3460	7	280
5	80	4230	14	720	65	4050	7	340
6	50	4680	100	1620	50	4500	14	470
7	50	5130	50	2070	50	4950	80	1190
8	50	5580	50	2520	50	5400	80	1910
9	50	6030	50	2970	50#	5850	43#	2300
10	50	6480	50	3420	38#	6190	33#	2600
11	38#	6820	38#	3760	25#	6420	30#	2870
12	25#	7050	25#	3990	16#	6560	19#	3040

# Since these pupils may take varying numbers of courses in French per year, these figures represent the average number of courses taken by the actual group of students whose scores were considered.

Source: Morrison, F., and Pawley, C. Evaluation of the Second Language Learning (French) Programs in the Schools of the Ottawa and Carleton Boards of Education, Volume 1: French Proficiency of Immersion Students at the Grade 12 Level. Toronto: Ontario Ministry of Education, 1986, p. 33.

TABLE 2

FRENCH IMMERSION IN ONTARIO: A DESCRIPTION OF SOME PROGRAMS TO GRADE 8

Program	Board of Education	Board Terminology	Grade Program Begins	Description	Accumulated Hours of French at End of Grade 8
LATE IMMERSION	Peel County	Late Partial Immersion	8	Grade 6 - core French (30 minutes daily) Grade 7 - core French (20 minutes daily) Grade 8 - 55%-70% of curriculum in French	625 - 780
	Toronto	Late Extended	7	Students have varying core French backgrounds prior to entering programs and have accumulated from 90 - 315 hours of core French instruction to end of grade 6 Grade 7 - 25%-30% French Grade 8 - 40% French	780 - 870
	Ottawa	Late-Entry Immersion	6	K - grade 5 - core French (20 minutes daily) Grade 6 - 100% French Grade 7 - 50% French Grade 8 - 50% French	2145
	Carleton	Late-Entry Immersion	7	K - grade 6 - core French (20 minutes daily) Grade 7 - 80% French Grade 8 - 80% French	1845
EARLY PARTIAL IMMERSION	Elgin County	Early Partial Immersion	1	Grades 1 to 8 - 50% French	3330
EARLY TOTAL IMMERSION	Ottawa, Carleton	Early Immersion	K	K to grade 1 - 100% French Grades 2 to 4 - 80% French Grades 5 - 65-80% French Grades 6 to 8 - 50% French	4450 - 4985

Source: Swain, M., and Lapkin., S. Bilingual Education in Ontario: A Decade of Research. Toronto: Ontario Ministry of Education, 1981, p. 74.

TABLE 3

COMPARISON OF FRENCH PROFICIENCY OF EARLY- AND LATE-ENTRY IMMERSION STUDENTS AT GRADES 8, 10 AND 12 IN OTTAWA AND CARLETON, 1979 - 1982

Grade	Year	Measure	EFI > LFI ($p < 0.05$)		
			Ottawa	Carleton	Combined
8	1979	Compréhension auditive	yes	yes	---
		Compréhension de l'écrit	yes	yes	---
		Mots à trouver D	yes	yes	---
		Français I	yes	yes	---
		Composition: total length	no	no	---
		average sent. length	yes	yes	---
		error rate	yes	yes	---
8	1980	IEA IV Reading	yes	yes	---
		Mots à trouver D	yes	yes	---
		Français I	yes	yes	---
		Composition: total length	yes	yes	---
		average sent. length	no	no	---
		error rate	yes	no	---
		Interview Test	yes	yes	---
8	1982	Français I	yes	yes	---
		Speaking Test (Structures)	no	no	yes
10	1981	IEA IVS Listening	no	yes	---
		IEA IVS Reading	yes	yes	---
		IEA IV Writing	yes	yes	---
		Mots à trouver C	yes	yes	---
		Français IV	yes	yes	---
10	1982	Français IV	no	no	---
		French Writing: Holistic	no	no	no
		French Writing: Analytic -			
		Word Choice	no	no	yes
		Technical Skills	no	no	no
		Grammatical Skills	no	no	no
		Content & Ideas	no	no	no
		Organization	no	no	no
		Speaking Test (Structures)	no	no	yes
12	1984	U of O Fr. Prof: Listening	---	---	no
		Reading	---	---	no
		Cloze	---	---	no
		Total	---	---	no
		Psych. Pre-Test: Listening	---	---	no
		Dictation 1	---	---	no
		Dictation 2	---	---	no
		Speaking Test: Part 1	---	---	yes
		Part 2	---	---	yes
		Part 3	---	---	yes

Note: In 1984 no comparisons were made within the individual boards, while in earlier years results were not usually combined for early or late immersion students across boards.

Source: Morrison, F., and Pawley, C. Evaluation of the Second Language Learning (French) Programs in the Schools of the Ottawa and Carleton Boards of Education, Volume 1: French Proficiency of Immersion Students at the Grade 12 Level. Toronto: Ontario Ministry of Education, 1986, p. 21.

TABLE 4

PROGRAM AT SIMON FRASER UNIVERSITY FOR TEACHERS
OF FRENCH AS A SECOND LANGUAGE

Immersion classes or classes for Francophones		Core French	
		Elementary	Secondary
401 Observation and preliminary teaching (2 months)	Most of the time spent in immersion or mother-tongue French classes	Most of the time spent in English classes, with observation of some French classes	Most of the time spent in French classes
402 Courses (2 months)	3 courses in French 1 course in English	1 course in French 2 courses in English	1 course in French 2 courses in English
405 Practice teaching (4 months)	All in French	Increased teaching of French classes	Most of the time spent in French classes
404 (4 months)	2 courses in French 2 courses in English	1 course in French 3 courses in English	1 course in French 3 courses in English

Source: Ohadia, A. "The Teachers, Key to the Success Story". Language and Society 12 (Winter 1984), p. 16.

TABLE 5

TRENDS IN LANGUAGE TEACHING: 1880's-1980's

INNOVATION THROUGH METHOD CHANGES	INNOVATION THROUGH LANGUAGE TEACHING TECHNOLOGY	INNOVATION THROUGH A SCIENTIFIC APPROACH
1880s-1920s Modern language upsurge Direct Method	*1st wave: 1900s-1930s* Phonograph and early development of the language laboratory	1880s Phonetics 1920s Educational psychology
1920s-1940s Compromise Method Reading Method		1940s Linguistics
1940s-1965 Rise and fall of audiolingualism	*2nd wave: 1950s-1960s* Radio, television, film, tape recorder, filmstrip, projector, language laboratory, programmed instruction	1950s Psycholinguistics 1960s Teaching method research Applied linguistics 1970s Language learning research
1965-1980s Breakdown of method concept New method boom	*3rd wave: 1980s* Microcomputer, CALL, videodisks/cassettes	1965-1980s Semantics Sociolinguistics Discourse Analysis Pragmatics

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TABLE 6

RECENT AND CURRENT TRENDS IN LANGUAGE TEACHING: 1970's-1980's

1970s				
1 LANGUAGE SCIENCES	2 EMPIRICAL STUDIES	3 CONTENT EMPHASIS	4 EMPHASIS ON THE HUMAN ASPECT	5 NEW METHOD BOOM
Semantics Discourse analysis Sociolinguistics The emancipation of educational linguistics	First and second language Acquisition/learning Error analysis Interlanguage Language teaching research NFER, IEA, and immersion research	*New Language Syllabuses* Council of Europe (needs analysis and Threshold Level) LSP: ESP, EST, EAP *Non-Language Content Emphasis* Immersion Procedural syllabus	Individualization Affective climate Humanistic techniques "autonomie de l'apprenant"	Silent Way Total Physical Response Suggestopedia Dartmouth Method Counselling Learning Natural Approach
1980-1985	1 ECLECTICISM	2 LANGUAGE ACQUISITION THEORY	3 COMMUNICATIVE APPROACH	
Beyond 1985	?	?	?	?

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Source: Stern, H. "Second Language Education in Canada: Innovation, Research, and Policies". Interchange 17 (Summer 1986), p. 44 and p. 46.

TABLE 7

SUMMARY OF MATHEMATICS ACHIEVEMENT RESULTS FOR COHORTS 1, 2 AND 3 IN ALLENBY P.S., OTTAWA BOARD OF EDUCATION AND CARLETON BOARD OF EDUCATION EFI PROGRAMS

		GRADE							
	Cohort	1	2	3	4	5	6	7	8
Allenby P.S.[1]	1	ns	ns	ns	ns	ns	ns	E concepts *	
	2	ns	ns	ns	I concepts ** prob solving * math total **	I concepts * prob solving ** math total **	ns		
	3	I arith total **	ns	I concepts *** prob solving** math total ***	ns	ns			
OBE/CBE[2]	1	ns	ns	E prob solving *	ns	ns	ns	ns	ns
	2	ns	ns	E concepts * prob solving *	ns	ns	ns		
	3	I computation ***	ns	ns	ns	I prob solving *	ns		

ns - no statistically significant difference between Immersion and English-taught students

I - Immersion students' average score significantly higher than average score of English-taught students: $^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$

E - English-taught students' average score significantly higher than average score of Immersion students: $^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$

[1] based on data adjusted for IQ (1978, 1979) or for age and IQ (1971-77)

[2] based on data adjusted for IQ (1979 results), or age and IQ (1971-78 results)

Source: Swain, M., and Lapkin., S. Bilingual Education in Ontario: A Decade of Research. Toronto: Ontario Ministry of Education, 1981, p. 90.

TABLE 8

SUMMARY OF MATHEMATICS AND SCIENCE ACHIEVEMENT AND WORK STUDY SKILLS RESULTS FOR COHORTS 1, 2 AND 3 IN ELGIN COUNTY BOARD OF EDUCATION EARLY PARTIAL IMMERSION PROGRAM[1]

		GRADE						
	Cohort	1	2	3	4	5	6	7
Mathematics	1			ns	ns	ns	E concepts *** math total *	▣ ns
	2		ns	ns	E computation *** math total **	ns	▣ ns	
	3	ns	ns	E computations *** concepts *** prob solving ** math total ***	ns	▣ E concepts *		
Science	1						E **	ns
	2					ns	ns	
	3					E *		
Work Study Skills	1						ns	ns
	2					ns	ns	
	3				ns	ns		

Key
ns - no statistically significant difference between Immersion and English-taught students
I - Immersion students' average score significantly higher than average score of English-taught students:
$^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$
E - English-taught students' average score significantly higher than average scores of Immersion students:
$^{*}p \leq .05$ $^{**}p \leq .01$ $^{***}p \leq .001$

▣ taught in English

[1] based on data adjusted for age and IQ

Source: Swain, M., and Lapkin., S. Bilingual Education in Ontario: A Decade of Research. Toronto: Ontario Ministry of Education, 1981, p. 101.

APPENDIX C

ALPHABETICAL LISTING OF CITATIONS IN ANNOTATED BIBLIOGRAPHIES

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